The Hunterian Oration

ON

JOHN HUNTER AND HIS MUSEUM.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, FEBRUARY 14TH, 1911,

BY

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MR. PRESIDENT,—The century lacks but two years of completion when Dr. Matthew Baillie and Sir Everard Home, John Hunter's Executors, in their desire to show a lasting respect to his memory, provided for the delivery of an Oration on February 14th, his birthday. And although one should not now expect on these occasions to hear anything fresh concerning Hunter, still we come to the familiar subject as one goes to a favourite drama or turns to some well-loved book.

Adequately to deal with the work of this many-sided man, the Orator should be of philosophic mind, and well instructed in the history of Surgery, and he should have a profound knowledge of plants and animals—not only in health but also in disease. It being thus beyond my reach to touch more than the fringe of Hunter's scientific work, I shall content myself with speaking of him as a man, and as the founder of a Museum which is without a rival in the world.

Of some men it may be said, as St. Paul disparagingly remarked of himself, that they are "born out of due time." Some, indeed, so far in advance of it, that the intellectual seed which they laboriously sow produces but a sorry crop, or lies decaying in the soil. Hunter, however, was happy in the date of his birth. Had it been delayed by, let us say, a century and a half, so that at the present time he would be approaching what the poet calls the "midway of the journey of life," he could not have attained the commanding position which, as it was, he occupied in so many branches of Science. And had his birth been thus delayed, would he have chosen the philosopher's path which leads to the Temple of Wisdom? Would he have worked in the field which proved so attractive to Darwin, or in that to which Pasteur devoted his great mind? Would he have developed into a Pathologist of world-wide reputation—like Billroth; would he have contented himself with being the foremost Surgeon of his day, or would his thirst for collecting have triumphed over everything else? He could not have filled each part. I am inclined to think that he would have given up everything in order to devote himself to Biology.

John Hunter was the youngest of ten children, most of whom died young. It may have been on this account that his mother spoilt him—though *spoilt*, in this case, can hardly be the proper word. At any rate, he was allowed to have things very much his own way, his mother making him her Benjamin. It is good for no man to have things too much his own way at any time of life—least of all, at the beginning. And it might have been better for Hunter if his mother, instead of constantly giving way to him, had helped him in early life to obtain a command over his temper. For our hero was apt to be overbearing in his dealings with others, and intolerant when his wishes were thwarted. And this is made painfully evident as we come to deal with the closing years of his life.

When he was about 17 he went to stay with his brother-in-law, a cabinet-maker at Glasgow, and, being very proud of the skill with which he could use his hands, he delighted to help in the workshop. And so the statement has become current that Hunter began life as a joiner, which is very far from fact.

It is apt to be set forth in the life-history of any person who has made for himself a high position in the world of Science, Literature, or Art, that from early childhood he was seen to be in possession of unusual talent in that direction. Thus, for instance, Cimabue showed first proof of his great gift by making remarkable sketches upon his lesson-books, and it is related that certain popular preachers used to give displays of talent by fervid outbursts of oratory in the nursery or school-room—which, to the common type of man, might seem out of place or even unwholesome.

But so it was not with Hunter. He was quite an ordinary boy. To use the words of his biographer, "having little taste for books, he preferred engaging in country sports to studying those elementary branches of knowledge which are best acquired in youth. In dwelling upon the story of his life it is a pleasure to meet with such an estimate of his character, for it supplies the needful human touch.

At the time that John Hunter was getting out of his teens, his elder brother, William, was conducting with great success a private Medical School in Windmill Street, Haymarket. He was a man of unrivalled talent, and though he was not connected with any Hospital, had established a great reputation for himself as a teacher of Anatomy and Surgery. John was much interested in, and his imagination was set on fire by, the accounts which he heard of his brother, and, as has so often been the case with self-reliant and enterprising young Scotchmen, he also desired to travel along that broad and pleasant road which leads from the stern country of his birth to the Mother-city of the Empire. So he wrote to William asking that he might be taken as an assistant in his Dissecting-room. A favourable reply having been received, John left Scotland on horseback for London in September, 1747. Up to that time he had been looked upon as an idler. Not infrequently it happens that a boy who has not yet been put to the work for which Nature intended him, has been thus regarded, till, by a happy turn of the wheel of Fortune, he finds the occupation for which he was fitted.

On arriving in London, John was at once put to work upon a dissection which was wanted for his brother's October lectures. This he did with such skill, that he at once gained the entire confidence of his brother. William had been afraid that John might turn out but an idle apprentice. And though he stuck closely to his work in the Dissecting-room and at the Hospital, he lived outside of them a somewhat free and reckless life. Like an ordinary, human, young man, "Jack Hunter," as he was called, liked to shake off restraint at times—and he shook it off very thoroughly.

Cheselden and Pott.

It is a proof, if proof were needed, of the warm interest which William Hunter took in the shaping of his brother's career, that he obtained for him the practical teaching and the friendship of the illustrious Cheselden, of St. Thomas's Hospital, one of the greatest of English Surgeons. He it was who invented the operation of lateral lithotomy; and, when French Surgeons came over to learn his art, they saw him operate on 27 patients for stone in the bladder in succession without a loss. And this, be it remembered, when stones, left uninterfered with, grew to enormous size, and when operations had not yet been made easy for the surgeon by the help of chloroform, nor safe for the patient by the adoption of methods of cleanliness.

Richardson's portrait of Cheselden, which you see before you, shows him as a cheery-looking individual who might never have known an anxious moment. History tells, however, that he was of such delicate fibre, that whenever he had to perform a serious operation he felt sick at the thought of the pain which he was about to inflict. And as he was constantly operating, it must needs be that his mind was much troubled.

He was sixty years old when John Hunter was brought to him—a worthy pupil for so great a master. Four years later he died of apoplexy, a not uncommon cause of death of members of his Profession—the result of high arterial tension brought on by ceaseless work. There is no eight-hours day for the Medical man; he cannot reckon on Saturday as a half-holiday, nor Sunday as a day of rest. It is this continuity of work, this never-ending strain of tissues, which brings about the early loosing of the silver cord, the breaking of the golden bowl.

Being thus compelled to look elsewhere for instruction, Hunter became a pupil of Percivall Pott, at St. Bartholomew's Hospital. A better choice could not have been made.

On the left of Hunter you see the portrait of Pott, by Romney, whom Reynolds disparagingly alluded to as

"the man in Cavendish Square"—Romney, whose delicate brush lingered so lovingly over the captivating features of Nelson's Lady Hamilton.

These three pictures have, by leave of the President, been brought down from our Council Room, where, for many years they have hung side by side, and where, we trust, in spite of all changes which may take place in the social and educational life of this country, they may continue happily to remain till Time shall be no more.

At the present day portraits of women by Romney are chiefly sought after, but I think that I would as willingly possess his picture of Pott as any that he painted. Even the most successful portrait painter cannot always choose his subjects; but when Romney had Pott seated before him he must surely have been satisfied, for truly his is a beautiful face! Those who can read a man's character in his features will form the opinion that Pott was a true English Gentleman. And their conclusion will be right. His devotion to his mother was romantic and intense; his kindness of heart was proverbial, and at one time he had three needy surgeons living under his hospitable roof. He was a man of high character and blameless life.

Shortly after his death his friend Sir James Earle collected his writings and published them, together with a short account of Pott and of his work. He said that the labours of the greatest part of his life were without relaxation, but that in his later years he took things more easily, "gathering," as Pott had expressed it, "some of the fruit of the garden which he had planted as he went along."

Though, after Pott's death, Hunter was by far the greatest Surgeon of the time, still he seemed to practise his Art chiefly to earn money for making additions to his Museum. He greatly disliked being called away from the Museum. "Well," said he, on one occasion, when he was summoned to see a patient, "I must go and earn this damned guinea, or I shall be sure to want it to-morrow."

Ottley, his biographer, apologizes for the strength of Hunter's language, and tells us that he has generally omitted the swear-words,' as "the objections to introducing them appeared to outweigh any advantage that such verbal exactness could afford." Perhaps he was right; but I confess that I would have preferred Hunter's unpolished expressions just as they came from the mint of his strong brain. Moreover, one almost expects to hear such words echoing from the days when men wore velvet coats and silk stockings, and were accustomed to say just what they thought—and to say it clearly and forcibly. True it is that at this time Bob Acres remarked that the best terms grow obsolete, and that damns had had their day. But Sheridan's poetic imagination seemingly led him to anticipate.

Hunter's unfriendly biographer Jesse Foot wrote, "John could never talk of his injuries, but would get rid of the passions they provoked in him by the bitterest utterings of swearing—Sterne's Dr. Slop could not have been a match for him." It was pure spite that made Foot compare Hunter with that old-fashioned Yorkshire apothecary, who, we know, was unusually free in his speech. When, as you may remember, Dr. Slop cut his thumb in trying to looosen the string which Obadiah had so tightly knotted around that green baize bag, Sterne says, "It would have done your heart good, and cured you, Sir, for ever, of the vile sin of swearing to have heard him."

But I am indignant at Foot comparing John Hunter with Dr. Slop. My opinion is that he was jealous of the great reputation which Hunter had obtained in a class of practice in which he, Foot, was specially interested.

Hunter and Jenner.

It would be impossible to give even a short account of the life of Hunter without speaking of the close friendship which existed between him and one of his former pupils, a doctor in general practice upon the Gloucestershire bank of the river Severn, Edward Jenner—one of England's greatest men. His discovery that the passing of the harmless germs of cow-pox through the blood renders a person secure against small-pox was not revealed until after Hunter's death. But we may permit ourselves to imagine the pleasure with which he would have regarded the philosophic bearings of Jenner's investigations, and the delight with which he would have hailed their conclusion! But what would he have thought, could he have foreseen that his friend's glorious discovery would at length be made a shuttlecock of political agitators, and that the cause of vaccination in the country of its birth should be so grievously neglected, that its compulsory adoption became a farce? The day of reckoning will surely arrive: England is sowing the wind, and she will not fail to reap the whirlwind. But, unfortunately, when the inevitable outbreak of small-pox takes place, among its victims will also be the ignorant and helpless.

Letter-writing was a far more important business 140 years ago than it is now; the art has been killed by the penny post. When Hunter was corresponding with his friend the postage of each letter cost at least four pence, which is equivalent to about eight pence at the present day.

Hunter's letters to Jenner are delightful; and it is a great pity that we cannot have Jenner's in reply. In every letter Hunter is urging his friend to find material for his Museum—fish, flesh, fowl—any thing that has life, or that ever had it. And he was willing and anxious to pay for it. "You see," said he, "I am very greedy. Be sure you keep an account of all out-goings."

As a kind of set-off to what Jenner did for the Museum, Hunter was more than ready with advice and help to his distant friend when surgical patients caused anxiety in his practice. Now, in the winter of 1776 a particular case was giving Jenner much anxiety. It was that of a boy with an open wound in his skull, from which a mushroom-like growth was bulging. Jenner did not know how to cure the boy; if he had lived at the present day he would have been no wiser. So he begged Hunter to advise him. "I don't know any one I would as soon write to as to you," replied Hunter, and he then thanked him for certain things which he had sent for his Museum, and remarked that he had not yet received the cuckoo's nest. He would have had to wait a long while for a nest of that out-and-out socialist of the feathered tribe, who leaves to others the responsibility of the housing, the rearing, the feeding, and the education of his offspring!

"Now for your patient. I believe the best thing you can do is to do little. I would not touch the fungus with a caustic for fear the brain should be near. Keep your patient rather low and quiet."

And what excellent advice it was! Could the Council of the College of Surgeons of to-day suggest anything better?

But Jenner was not satisfied, for in a little while he was again questioning about the boy. And Hunter, with his Museum in his thoughts, wrote in reply:

"Send everything you can get, either animals, vegetable, or mineral, and the compound of the two, either animal or vegetable mineralized. I would have you do nothing with the boy but dress him superficially; these funguses will die and be damned to them, and drop off. Have you large trees, of different kinds, that you can make free with? If you have, I will put you upon a set of experiments with regard to the heat of vegetables. Have you any eaves where bats go to at night?" And so on.

Still Jenner was not satisfied, and in less than a fortnight he was again writing about this worrying case. Hunter replied:

"I would advise you not to meddle with it. Be quiet; and think yourself well off that the boy is not dead. You do not mention a word about bats. Have you got the bones yet of a large porpoise? I wish you had. Is ever the salmon-spawn seen after she has parted with it? If it is, I wish you could get some. I want to examine the spawn of fish in the progress of the formation of the young one."

In the next letter Hunter is asking again about the salmon-spawn, and is suggesting that Jenner should undertake some work upon the sex-question of eels. He appealingly ends the letter by asking, "Cannot you get me a large porpoise for love or money?"

I am tempted to keep you one moment more over these letters, because, being written to his dearest friend, they show the inmost working of his mind, and they plainly tell us that the one thought of his life was his Museum—

Dear Jenner, I received your salmon, and very fresh, and just examined enough to want another. I will take a cock-salmon when you please. If you catch any bats, let me have some of them. Did I write to you some time ago about cuckoos? I have forgot: if I did not, I must give you a long order.

He does not ask about that boy; nor, so far as one knows, does Jenner trouble him any further in the matter.

At about this time Jenner had fallen deeply in love, and just when things seemed to be leading up to a happy marriage, black disappointment threw over them his pall. Hunter, ignorant of what was going on in Gloucestershire, continued to write for various objects for the Museum. But he received no response. Then he heard a rumour of Jenner being married; so wrote to congratulate him, sandwiching his congratulations between remarks on hedgehogs and fossils.

On the broken-hearted Jenner replying that not only was he not married, but that, unhappily, all was over between the lady and himself, his friend replied—"I own I was at a loss to account for your silence, and I was sorry at the cause. I can easily conceive how you must feel. But let her go, and never mind her. I shall employ you with hedgehogs." And then he gave him a list of investigations which he was to make with these animals. His Museum was always in the front of his mind. Whether he was writing about a patient, or about his own serious breakdown; or about his friend's marriage or his grievous disappointment, he was ever thinking what he could do to render his Museum more complete, and so to increase its value as an educational institution. Another great reason for his anxiety to make it more perfect was, as his brother-in-law tells us, that it might sell the better after his death; for, having spent almost all his fortune over it, he had been able to make scarcely any other provision for his family; "his expenses had always exceeded his income."

Hunter's Daily Life.

Hunter was at work in his Museum from dawn till breakfast; and he was in his consulting-room, or in his carriage, and visiting his Hospital or his private patients, from breakfast till dinner—which he took, according to the custom of the day, at four o'clock. After dinner he went to sleep for an hour, and then he sat down to write letters and essays, to work up clinical records, or to describe preparations for his Museum. At midnight the butler brought him in a fresh lamp, by the light of which he continued to work on till one or two in the morning, or even later in winter. So that, including the nap which he had after dinner, he was apt to get but four or five hours' sleep out of the twenty-four.

We are plainly told that he had no home-amusements, and that he took his greatest pleasure amongst the wild animals which he kept in the garden of his house in Earl's Court where he slept, and where, with his family, he spent the greater part of his time in the autumn months.

What a life to live! Which of us would accept it, even to be, as Hunter is, immortal?

But Nature, ever jealous, could not pardon even him, her devout and loving disciple, for so long and complete a neglect of her unwritten laws. As far as one can make out, he took no bodily exercise, and sought little mental relaxation. The bow was never unstrung. As one looks back upon this unresting student of Nature, one can scarcely help regretting that he had no experience of those two amusements over which men and women of to-day are apt to waste so large an amount of time—golf and bridge. As recreations for intellectual workers, what more suitable: as life's chief occupations, what more pitiable!

There is little to suggest that outside of the science and practice of his Profession Hunter found much to interest him. The letters which he wrote and received, or, at any rate, those of them which have been preserved and published, make no allusion to sport or pastime; and there is no mention of foreign travel, that delightful relaxation for a busy man with no special interest in the pleasures of country life. Indeed, Hunter's one and only happiness was in intellectual work, and especially in that which concerned his Museum.

Every medical man should make for himself interests outside of his Profession to which he can devote himself in the odd times in which he can escape from the anxieties of his occupation. Intemperance in work is well-nigh as harmful as intemperance in eating or in drinking. In the absence of outside interests a medical man is truly to be pitied. When, with advancing years, he unwillingly retires from the contest, if there is nothing better for him to do than to look wistfully backwards or sorrowfully forwards, the evening of his life must indeed be dark and miserable. But happily there was no evening to Hunter's life; he died before the lengthening shadows fell across his path.

Hunter and the College of Surgeons.

The records of our Corporation show that at a Court of Examiners held in July, 1768, John Hunter was examined for and received his Diploma. Amongst his Examiners was his former Master, Percivall Pott. Hunter was then 40 years old. Already we have heard of him in connexion with the Corporation in the Minutes of the Court of Assistants of July, 1753, where it is stated that Pott and Hunter were elected Masters of Anatomy.

In accordance with the by-laws, the Court had to make six anatomical appointments each July—Two Stewards of Anatomy, two Wardens of Anatomy and two Masters. The business of the stewards was to prepare the subjects for the lectures; of the Wardens to act as Demonstrators, and of the Masters to give the Lectures.

It was the duty of the Court of Assistants to choose these officers from amongst the Members of the Corporation. The appointments were for one year, and if a Member thus chosen said that he wished to be excused from holding the Office, he was fined "twenty one pounds lawful money," for so it was nominated in the Bond. The plea of incompetence for the task, or of illness, was not taken as an excuse—the work had to be done or the fine had to be paid. Fines of all sorts were, indeed, the great source of income to our Corporation in those days.

In the minutes of the Court of Assistants of October 5th, 1786, it is recorded that Mr. John Hunter had presented to the Corporation two volumes of his *Natural History of the Human Teeth*, and a copy of his *Treatise on the Venereal Disease*, and in accepting them, the Court passed him a Vote of thanks.

When, in 1745, an Act of Parliament enabled the Surgeons to free themselves from the Barbers, they became a Corporation under the Government of a Master and a Court of Assistants—21 in all. Shortly afterwards they built for themselves a Hall in the Old Bailey. And early in 1789, in order to fill the vacancy caused by the death of Pott, Hunter was elected a Member of the Court—which corresponds with the present Council of the College. Appointment was for life, and as Hunter died in 1793, he was a Member of the Court for four years and a half. Foot says that during this time he attended only one meeting. That, however, is a misstatement—"calculated and frigid."

The Court met quarterly, and it had now and then, in addition, a special Meeting. Hunter was elected in February, 1789, and in the following April he came to be admitted, taking the oath and paying the fine of twenty-one pounds. There were three other Meetings in the year of his election, at each of which he was present; and there were five in 1790, from only one of which he was absent. There were six Meetings in 1791, but he attended only two of them; in 1792 there were six meetings, two of which he attended, and in 1793, in the October of which year he died, he was present only once. Altogether he attended fourteen Meetings out of twenty-six, which is, indeed, a very poor record.

In his last two years he was absent from eight Meetings out of eleven, and my explanation for his increasing lack of interest in the affairs of the Court of Assistants is that he got on badly with his fellows, and especially with three highly placed Members who came from his own Hospital, Gunning, Walker, and Hawkins. Though there may not have been open enmity between him and them at that time, they certainly were on unfriendly terms. Indeed, Ottley tells us that they were frequently in collision.

At a Meeting on November 7th, 1793, as recorded in the Minutes, "The Master reported that since the last Court of Assistants, Mr. John Hunter, a Member of the Court, had departed this life, and declared a vacancy in pursuance of such his death."

Nothing further is noted: no Resolution of Regret or of Condolence appears to have been passed. And Dr. Peachey, who has kindly examined for me the Minute-books of St. George's Hospital, says that he can find in them nothing more than the bare notification of his death.

There is no denying it: Hunter did not agree with his fellow-practitioners. Foot affirms that he hated his equals

in the Profession, and it was probably true, for Ottley writes that his manner to them was "blunt and overbearing." As Surgeon-General to the Army he had great patronage, and he was in the habit of refusing recommendations which other Surgeons made for vacant military appointments, and of giving pretty nearly everything to his own pupils and associates. This made him highly popular amongst his friends, but it was gall and wormwood to the other Hospital Surgeons, many of whom were upon the Court of Assistants. If he could have foreseen that this College was eventually to have the guardianship of his Museum, things might have been different.

When, six years after his death, Parliament purchased his Museum for the Nation, it was offered first to the Royal College of Physicians, and it is only because of their declining to accept its custody that Government entrusted it to our keeping. But had the Trust been accepted by the Sister College, she would have found a medical and a philosophic side to Hunter's work which would have justified her in giving him an honoured place by the side of her Harvey and her Sydenham. Fortune, however, was not blind when she settled that the world-famed collection, with its countless associations, should be handed over to this College. And justly may it be claimed that nowhere else could the conditions of the Trust have been more faithfully or devotedly observed!

Hunter's Illness.

It has been truly said that a man is as old as his arteries, and, looked at from this point of view, though Hunter's age at his death was under 65, he had for many years been far older than that, for he was the subject of advanced arterial disease. It is impossible to say at what time the disease began; it comes on so slowly that for a long while there may be nothing to call attention to its presence. But in the Spring of 1773 he had an alarming attack of spasm, in which for about three-quarters of an hour his heart stopped beating; it was apparently caused by mental worry. Four years later he had a still more distressing attack which was also brought on by anxiety. And this time he suffered from a continuous giddiness which prevented him raising his head. The mental shock so affected his feeble heart that it was unable to pump blood to the brain through the narrowed vessels. But though this must have been felt by him to be a warning, he evidently did not allow it to cause him alarm. This is the way in which he refers to it in the middle of a letter which he wrote to Jenner a few weeks afterwards: "I had the pleasure of seeing your brother, but only for a time. I received the bird; I am not acquainted with it. Send me some more if you can get them readily. Not two hours after I saw your brother, I was taken ill with a swimming in my head, and could not raise it off the pillow for ten days. It is not yet perfectly recovered. Have you begun the eels. No porpoises. No salmon-spawn before it is hatched. You see I am very greedy."

This letter is especially interesting in the light of those other letters. In them, as you remember, when Jenner was anxiously asking how he should deal with that boy with the damaged head, Hunter could, apparently, think of little but his Museum. And here, when Hunter is telling Jenner how Death had been giving what was, as a fact, his second loud knock, he refers to it merely as an incident, between the welcoming of a rare bird to the Museum and a reminder that Jenner has not yet told him of the result of his researches concerning the eels. What a mental picture it offers—Hunter discussing the sex-problem in eels whilst Death is waiting at the door!

But though Hunter gave little heed to his illness, his doctors insisted on his going for a complete rest to Bath. And as soon as he was settled there Jenner went over to see him—a journey of about twenty miles—and was alarmed by his altered appearance. He said nothing to Hunter, however, but he wrote to his London physician giving it as his opinion that all the trouble was due to imperfect nourishment of the heart-muscle, the result of arterial disease. And Jenner was right.

After remaining three months at Bath, though by no means recovered, Hunter went back to London and set to work at his Museum and his practice as if nothing had happened.

In 1785—that is, eight years after his last attack, and as many before his death—his disease caused him increasing distress, and especially so when he was angry; and as he grew older his temper did not improve. He would fly into a passion for very little cause, upon which an attack would come on, leaving him exhausted and miserable. It is a sad story—the man of giant mind such as the world rarely produces, worn out with incessant work and insufficient rest, torn to pieces by an ungovernable temper, and left, at shortening intervals, faint and helpless! It was all very well to call his complaint "flying Gout"—whatever that may mean—it was something far more serious. Once more he visited Bath—but with little success. Indeed, he was in such a poor state of health that any other man in his position would have given up work altogether and retired into private life.

Dante reminds us that there comes the time to each one of us when, like a mariner approaching the port, he should lower the sails and gather in the ropes.* But Hunter refused to see that this had come to him. Though he knew that his days were uncertain, he felt that life without work would be intolerable. Above all things, his Museum must be attended to. So he came back to London, and (November, 1785) again put on harness.

Having thus brought you to look upon Hunter as a man bankrupt in bodily health, which, indeed, he was, I wish you to see, by contrast, that his mind was in full vigour, for it was at this time that he thought out and carried into execution a new operation for the cure of aneurysm—a piece of work which alone would have sufficed to place him for ever in a niche in the Temple of Fame.

Time will not allow me to do more than merely refer to the great advance which this measure effected in the march of Surgery. But I think it right to take this occasion of saying that its conception was the direct result of an experiment carried out on a living animal. And if no other piece of useful knowledge than this had ever been established by such method of experiment, it alone would abundantly justify the resort of the man of Science to the use of what is commonly spoken of, and too often spitefully spoken of, as vivisection.

His Ill Health Accounted For.

One cannot deal satisfactorily with the question of Hunter's ill health unless one keeps in view the fact that, as the result of what must be called a "vivisection" experiment upon himself, he became the subject of constitutional syphilis. Though he had abundant opportunity of studying the progress and the effects of syphilis in patients coming to him for treatment after accidental infection, he desired to watch its course in a less impersonal manner. So he calmly dipped a lancet in venereal matter and inoculated himself with it. The experiment was a highly risky one, and it proved disastrous. Medical men and medical students have in all times been willing to offer themselves upon the altar of Science, in the hope of solving some pathological problem or of helping onward some scheme of treatment which might prove useful to their fellow-creatures. Hunter's trial upon himself by no means stands alone.

Hunter was then in his 40th year. He well knew the seriousness of the constitutional disease with which he had infected himself, and, whilst watching its progress, he found that he could check it by a certain line of treatment; but he writes that as soon as he found himself thus getting better he stopped the treatment, "for the intention was not to cure the disease completely at present." In due course his throat became ulcerated; and, having again adopted enough of the treatment to cause the ulcer to "skin over," he once more ceased it, as he did not then wish to destroy the poison, "but to observe what parts it would next affect." In three months copper-coloured blotches broke out on the skin, and ulceration once more attacked the throat. At a later date, when he thought that he had learnt all that was possible from his experiments, he set to work to cure himself. From the date of his inoculation to the completion of the treatment of the disease was about three years. He was apparently satisfied that the knowledge which he had thus obtained was sufficient reward for the inconveniences which he had undergone; but no

* quella parte
Di mia eta, dove ciascun dovrebbe
Calar le vele e raccoglier le sarte.

medical man, looking back, would share with him that feeling of satisfaction. The price paid was far too heavy!

There can be little doubt that the progressive arterial degeneration of which he was the subject was greatly, if not altogether, due to that self-inflicted disease, from the effects of which he never actually recovered. Not only did it render him feeble in body, but it also disturbed the balance of his mind and made him increasingly restless and irritable. Thus to think upon Hunter and his illness is to enable one to look upon his vast achievements with increased respect, and to regard his failings with unstinted sympathy. The longer one lives the more fully does one realize the truth of the French proverb which tells us that to understand all is to forgive all!

Hunter, Pasteur and Lister.

Just now, when speaking of the friendship which existed between Hunter and Jenner, I referred to the delight with which Hunter would have looked upon the discovery of vaccination as an almost certain protection against small-pox, which his earlier death prevented him witnessing. And as the Shade of Hunter wandered through the Elysian Fields, he must have offered a warm welcome to another kindred spirit of the commonwealth of Science, and one of its brightest ornaments—Pasteur—who joined him after a hundred years. With what pleasure would these men discuss the many subjects which lay within the space in which the work of the physiologist overlapped that of the physicist! With what interest Hunter, one of the earliest friends of our Royal Veterinary College, would listen to Pasteur's account of the outbreak of the Cattle-plague in France, of the pestilence amongst the silkworms, and of the diseases of wine and of vinegar, all of which he had made to disappear by the touch of his magic wand! and with what approval would he follow Pasteur's account of the way in which he worked out his theories in connexion with that terrible disease, hydrophobia, and established their truth by experimentation on the animals themselves! What a group is it—Hunter, Jenner, and Pasteur—Jenner, Hunter's friend in the flesh, and Pasteur in the Spirit!

And having thus spoken of the spiritual association of Hunter with Pasteur, it will be but a short step to connect Hunter's ideas with those of our Lister. For the range of his mental work in Surgery (as was first pointed out to me by Mr. Dent) did actually touch that of Lister. Hunter is lecturing to his pupils upon hectic fever, which we now know to be the result of slow blood-poisoning, and these are his words:

"We have as yet, I am afraid, no cure for this. I believe the cure consists in the removal of the cause—namely, the local disease. Strengtheners and antiseptics are recommended. Strengtheners are proposed on account of the debility which has evidently taken place, and antiseptics, from the idea of absorbed pus giving the blood a tendency to putrefaction."

Here then is Hunter, a hundred years before Lister, talking about pus and putrefaction, and ascribing hectic fever to blood-poisoning, just as Lister would do, and, moreover, saying that the disease should be treated by *antiseptics*—using Lister's favourite word.

Hunter had thought it out for himself, turning the rough idea over in his philosophic mind until he had it ready for presentation to his students.

Look at him in Reynolds's magnificent picture. He is seated at a table with an open book beside him with drawings of skulls; there are also on the table an anatomical preparation and two closed volumes. But evidently his thought is not with *them*. His face shows that he is deep in meditation, and that his thought is far away—a hundred years forward, as likely as not. And, if so, may it not be that at that very moment it is on the fringe of the work of Pasteur and Lister? At any rate, at one time or another he was within touch of Lister's immortal discovery. And he could have reached it without the help of a microscope. He might, like Pasteur and Lister, have put the fresh-boiled broth into a sterile vessel; and, having shielded it from dust, kept it sweet for weeks. Then, carrying out the same idea with a clean surgical wound, and treating it with "antiseptics," he would there also have secured the wished-for result—its prompt healing. By the broth losing its clear appearance and its wholesome smell, as by the wound becoming swollen, offensive, and bathed in pus—the result of their having been infected—he would have been led to see and grasp the great truth, and then would have worked out the simple and beautiful antiseptic theory as we practise it to-day. But in a mind so crowded with ideas that it was, as he said, "like a beehive," it might not have taken much to turn aside that current of his thoughts. So that, if, by chance, a vision of the antiseptic method was occupying his thought when Reynolds caught that charming expression, a casual remark from the painter might easily have caused it to vanish into thin air.

The portrait was painted in May 1785, three months after Hunter's 57th birthday, but it shows him looking a good deal older than that. Indeed, Everard Home says that, after his serious attack, "he gave the idea of having grown much older than could be accounted for from the number of years which had elapsed."

The picture was hung in the Exhibition of the Royal Academy of the following year, as the "Portrait of a Gentleman." But in the course of time, on account of the nature of the pigments used, it darkened and cracked and threatened to go to ruin. At last, when its condition seemed well-nigh hopeless, it was restored by an expert named Farrar, who in the course of his remarkably successful work, removed the paint from the old canvas and re-applied it upon a new one.

The story of the painting of the picture is well known—Reynolds found Hunter a bad sitter. Probably Hunter did not like being under control, and became as difficult to pose as a restless boy at a photographer's. And so it came about that, though the picture was far advanced, the artist was not satisfied with it. One day, however, Hunter fell into a waking dream as he sat, and "Reynolds, without a word, turned the canvas upside down, made a fresh sketch, with the head between the legs of the former figure," and obtained the result which you see.

Much the same thing happened when Mrs. Siddons was sitting to Reynolds as the Tragic Muse. He had already sketched the head and face, and when he had turned away from his easel to mix some colour, Mrs. Siddons changed her position in order to examine some picture hanging on the wall. Reynolds was so pleased with this natural pose that he begged her not to move, and he then painted her as she is seen in the glorious picture at Grosvenor House.

In a lecture on Sleep, Hunter says: "It is even possible to dream when awake; it is only necessary for the thinking power to take possession of the mind, and proceed with an action with which the present sensation has nothing to do. Now, whenever the body loses the consciousness of its own existence, it may be called a waking dream, and this is often the case when people are in deep thought."

In this great picture Hunter is truly in a waking dream; and no one will venture to contest the point if I suggest that he is dreaming of putrefaction, of suppuration, and of the antiseptic system which was to come!

The picture was presented to the College by Hunter's son, in February, 1821, with the accompanying letter, addressed to the Secretary:

> Sir,
>
> I have no doubt that the placing the portrait of my dear Father, the late John Hunter, Surgeon, in his Collection will meet with the wishes of the College of Surgeons, and that the gift of the above portrait will be acceptable to them. I do not think it can be more appropriately situated or more worthily disposed of. I therefore beg leave to make them the offer, and to add that I shall think myself honoured by their acceptance of it.
>
> I am, Sir,
>
> Your obedient servant,
>
> JOHN BANKS HUNTER.

Hunter and St. George's Hospital.

Hunter's colleagues at St. George's Hospital regarded him as a dreamer, and refused to see that his physiological studies could have any useful influence on the work of the practical surgeon; whilst Hunter, from his high standpoint, looked down upon them, and treated them with scant respect. Thus there was between him and them an

entire absence of that good feeling which it should be the duty of every member of a Hospital Staff to cultivate, not only for his own happiness, but in the interests also of the Hospital, the students, and even of the patients.

At the beginning of 1792, when Hawkins retired from the Hospital, Hunter did his utmost to secure the election of Mrs. Hunter's brother, Everard Home, to the vacant post. Gunning and Walker, however, fought against him to get in Thomas Keate, who proved successful by 134 votes against 102 cast for Home. "This," says Ottley, "could scarcely fail to heighten existing animosities." Those two words "existing animosities" give clear proof that Hunter greatly disliked Gunning and Walker, and I am going to assume that Hawkins (into whose vacancy at St. George's Hospital Keate had been elected) sided with them against Hunter.

Those of us who have had experience of the wretched system of election to a Hospital Staff by canvass and open vote, can understand the bitterness caused by the Keate-Home contest—a bitterness made all the greater by the fact that it was somewhat of a family affair. As a result of his defeat, the iron entered deeply into Hunter's soul, and he turned round on his colleagues and declared that he would no longer agree to the division with them of the surgical pupils' fees, and that for the future he meant to keep for himself all moneys paid by students who entered under his name. He claimed that he did this in order to stimulate the other Surgeons to do better for the students than they had done in the past, as, in his opinion, their neglect had brought disgrace upon the Hospital.

Gunning, Walker, and Keate replied; and, whilst admitting that more pupils entered under him than under them, claimed that they did so from a knowledge of the fact that he would be likely to find Army appointments for them later on. And they set forth this unanswerable objection to his scheme, that if a pupil entered the Hospital for the practice of one surgeon, he would be unable to watch the work of the other. To have agreed would have been to admit that they had actually been blameworthy; but they said that they would like to have the matter referred to the Governors of the Hospital. Hunter replied that he accepted their proposal, and that he would meet it "fairly and very willingly." And before the Meeting he sent a long printed document to each Governor setting forth his case.

Hunter's scheme, which was conceived in a moment of wrath, was an impossible one, and the Governors rightly gave their decision against it. And after this, in order to promote the smoother working of affairs at the Hospital, a Committee was appointed to draw up a Code of Regulations, amongst which was one forbidding the admission of pupils who had not already received some medical instruction. The effect of this would be to shut out young fellow-countrymen of Hunter, who were attracted to the Hospital by his reputation and success. Indeed, soon after the adoption of the Code, two Scottish youths, without any knowledge of medical work, applied to Hunter to be received as his pupils at the Hospital. He told them of the new law, but promised to try and obtain permission for them at the Meeting of the Board which was to be held on October 16th.

Hunter's position at that time was not a happy one. He had quarrelled with his colleagues, and had twice been beaten by them in contests before the Governors of the Hospital, and he was now going to engage in another fight with them. Worse than all, he was the subject of a disease which gave him distress whenever he was excited or angry.

Something told him that disaster was close at hand. As he was addressing the Board at St. George's Hospital, a member of it, possibly Gunning, gave him a flat contradiction, on which he stopped speaking, hurried into an adjoining room, and fell lifeless in the arms of one of the Physicians!

A more dramatic ending to a strenuous life could not be imagined; and doubtless it called to the mind of many people the sudden heart failure of Chatham when he was addressing the House of Lords a few years before. But between Chatham's seizure and his death there was a delay of some weeks, whilst Hunter's death followed his attack with awful suddenness, as when the deafening thunder rolls upon the vivid lightning-flash.

If, as I claimed just now, Hunter was happy in the time of his birth, equally so was he in that of his death. He was then in his 65th year—an age at which he could not expect surgical practice to be increasing. His heart-disease was steadily getting worse, and he himself more irritable; and though he was still full of energy, he was wanting in strength. His Museum, daily growing larger, was making heavier demands upon his purse, and he had already spent so much upon it that he had but little private means. Surely Death came to him as a friend, as, indeed, he comes to most of us, if only he does not too long delay his coming.

On examination after death, it was found that his heart was wasted and small, its muscular tissue being "pale, and loose in its texture." The arteries of the brain, and of other parts, were thick and rigid.

Commonly it happens that when a man's arteries are diseased the muscular wall of the heart grows stronger and more massive in its effort to pump blood through the resisting tubes. But as Hunter had not been in the habit of making vigorous calls upon his heart by physical labour, his heart possessed no reserve of force, and readily gave up the unequal struggle. In an ordinarily healthy man, taking a fair amount of exercise, if the heart is called upon to do extra work—as in the case of valvular or arterial disease—its muscle becomes thick and strong, like that of the blacksmith's arm, but the heart of Hunter actually shrank from the task. And, just as Jenner had foretold sixteen years before (after that visit of Hunter to Bath), the arteries supplying its muscular tissues were converted into bony canals. The aorta was dilated, and all the valves of the heart were out of working order.

There are few great men the details of whose life are so well known as are those of John Hunter's. His history is an open book which any one may read. And though we fully recognize the grandeur of his intellect, we also see his weaknesses and admit his faults. No part of his industrious life is hidden behind a curtain which the historian feels it better to leave undrawn. We are told almost every detail; we know the full story of his death, and we have a sufficient account of the result of the examination of his body after death to enable us clearly to understand its cause. And as we learn of the gross changes which were revealed in his arteries, the opinion grows stronger that they were to a large extent the result of those disastrous experiments which he made upon himself a quarter of a century before.

When reading the biography of a man, one expects to find that as he advances in years the little faults of his earlier days disappear, and that his views, his interests and his hopes become wider—that, in short, his character gradually takes on the richer tints of autumn. But so it was not with Hunter. The sunshine and the rain which had come into his life had had no mellowing effect upon him; the jealousies and the bitterness of his nature steadily became more marked. And from what one knows of the results of syphilitic degeneration of the blood vessels, one would probably be right in ascribing the early coming on in him of old age, and the growing irritability of his temper, to the effects of that disease with which he so unwisely inoculated himself.

This great High-Priest of Nature ought, of course, to have been buried in Westminster Abbey; but no invitation was forthcoming. In those days Theology looked askance upon Science. So the body was enclosed in a coffin and quietly placed in the vaults of that church which stands between the Strand and Trafalgar Square, for, as Hunter lived in Leicester Square, St. Martin's-in-the-Fields was his parish church. And there it would probably have been to-day, but that, in the beginning of 1859, a member of our Profession, Mr. Frank Buckland, saw a notice in the "Times" to the effect that by an Order in Council the vaults of St. Martin's Church were to be bricked up. Believing that the body of Hunter was lying there, he visited the church, and found the following entry in the sexton's Register, concerning Hunter's funeral arrangements, under the date of October 22, 1793—

> John Hunter, Esq., Leicester Square, No. 3 Vault.
> £6.10. No candles; ¼ past 4.

Buckland made it his care to find the coffin.

On the door of Vault Number Three being opened, he saw, by the help of a bull's-eye lantern, that the vast

space was stacked with coffins from floor to ceiling, in "most admired disorder." Some were lying east and west: some north and south: others were placed crosswise, and some were standing up on end. Every one of these had to be taken out so that the name-plates might be read. This was a long and gruesome business, as the coffins were heavy of oak and lead, and he and the men helping him spent fifteen days over it. At last, when upwards of 200 coffins had been fruitlessly examined, there were only five left at the end of the vault; and as he could read the names on the three uppermost of these, he feared that his chance of reaching the object of his search was small. However, on one of the last two he had the satisfaction of finding the inscription,

John Hunter, Esq.,
Died 16 October
1793
Aged 64 years.

And above these words were engraved the arms of the Hunter family.

Thereupon the Council of this College approached the authorities at Westminster, and asked that the body might be granted tardy burial in the Abbey. The Dean, Dr. Trench, worthily replied, "We shall be proud to be the guardians there of the ashes of so great a man."

The coffin, therefore, was brought to the Abbey; and on March 28, 1859, in the midst of a crowd of illustrious persons, all that was mortal of John Hunter was laid in the earth of the North Aisle, not far from the last resting place of Isaac Newton. And as the coffin was being lowered into the vault, the organ pealed forth that magnificent chorus from Handel's Funeral Anthem,

"His body is buried in peace; but his name liveth evermore!"

To you, Mr. President, and to me, as to others who are devout worshippers at the Shrine of Hunter, there may appear little or nothing in this Address which is worthy of attention. Still, it may be hoped that in its course some stray thought may have been set free—as when a flint strikes steel—which, falling upon the mental tinder of some younger man, may cause the springing up in him of a flame to illuminate his studious path and help him onward. Indeed, without the hope of some such effect resulting from a Hunterian Oration, the pious intention of John Hunter's Executors might well be allowed to sink into oblivion.

And even for those of us whose thoughts should be directed to the lowering of the sails of their bark, and the gathering in of the ropes, there will still remain a place in the mental vision for the picture of a raw Scottish lad coming up to a great City in which he had but one friend, and, possessing nothing beyond the rudiments of an education, seeking his way to a position in the world of Science and of Art such as it is the lot of few to attain, and, without any indebtedness to the goddess Fortune, reaching it by dint of of industry, vigour and determination.

THE number of persons who visited the Royal Botanic Gardens at Kew during 1910 was over three and a half millions, the largest number on record. It seems a very large number until we recollect the enormous population which lives within ten miles of the gardens, and think of the great number of persons who visit London during the spring and summer months to see the sights. Undoubtedly one of the most beautiful of these is the garden at Kew, whether it is seen in its spring or its summer dress. But the garden has a scientific as well as an aesthetic attraction, for a great deal of important scientific and economic work is done there. Apart from growing things, the dried collections and the wonderful set of drawings of tropical vegetation by Miss North are alone worth the easy pilgrimage, for the objection which used to be made against Kew that it was inaccessible no longer holds good. With the help of underground railways and electric tramways it can be reached *tuto cito et jucunde*. It is worth while to add that when a foreign visitor, or one of our overseas countrymen, asks about the Botanic Gardens the Londoner would do well to direct the inquirer to Kew rather than to the gardens of the Royal Botanic Society in Regent's Park. That society does much good work, but it is hampered in many ways, not least being lack of funds, and its gardens, interesting as they are, compare favourably with the great botanic gardens in other countries. Kew, on the other hand, is not unworthy of such a comparison.

The Lettsomian Lectures

ON

A REVIEW OF THE OPERATIONS FOR STONE IN THE MALE BLADDER.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON.

BY

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LECTURE I.

MR. PRESIDENT AND GENTLEMEN,—It is known that operations for the removal of vesical calculi have been performed for over two thousand years, and we are indebted to Celsus for a clear description of the method then adopted, which, with but little variation, kept the field for over fifteen hundred years, and was at times practised as lately as two hundred years ago. This operation seems originally to have been regarded as beyond the scope of the practitioner of that time, for we find that those who took the Hippocratic oath bound themselves not to perform this operation; the disciple, taking the oath, said, "I will not cut persons labouring under the stone, but will leave this to be done by men who are practitioners of this work." No wonder, then, that the operation fell into the hands of quacks and irregular practitioners, but in justice to them we must remember that the first step of putting the operation on a sound foundation was taken by a man who was in no sort of way qualified as a practitioner of medicine. When we remember that this operation has not only been brought before societies of learned men, but before princes, parliaments, and men in high position, there is sufficient of interest to warrant our giving it some attention. We may safely conclude that a person suffering from a vesical calculus in those distant days had to put up with the pain and distress until his condition was desperate. There was no early diagnosis of stone then—indeed, the stone was detected not by the sound, but by introducing the fingers into the rectum and feeling it through the anterior wall. The next step was to recognize that it could be pressed forward against the perineum, then, when this was done, it was but one step farther to suggest that the intermediate parts should be cut with a knife and the stone extracted. Such were the steps by which the first simple operation was arrived at. It is possible also that the sloughing of the perineum, due to the presence of a stone impacted in the deep urethra, thus allowing it to come away, may have suggested the division of the soft parts as a means for its extraction. This operation, from its having been described by Celsus, has been called the *Lithotomia Celsiana*, or, from the use made of the fingers in pressing down and holding the stone, it has been called cutting on the gripe, and when in later ages more complicated operations were invented and many instruments used, this was named the apparatus minor, or lesser apparatus, from its being performed with no other instrument than a knife and a hook. Such an operation as this, requiring no knowledge of anatomy for its performance, could be undertaken by quacks, whose only desire was to extract the stone, and who were indifferent as to any complications which might arise afterwards. Apart from these, however, it was performed by regular practitioners, and for many centuries was in considerable favour. Celsus describes the operation as one which,

> when all others fail, must be performed on those afflicted with the stone; an operation which, since it is full of danger, must never be rashly performed, nor at all times and seasons, nor in all ages, nor in all degrees of the malady; but only in the spring in boys from 9 to 14 years of age, and when the disease is so desperate that it can neither be cured nor even alleviated by medicine, but when the person must die in a little while.

Such, then, were the conditions justifying the operation. It is difficult to understand why the operation should not have been performed on boys under 9 years of age, as it could have been carried out as well before that age as after. In the adult there were difficulties, arising from the size and depth of the perineum, which may have rendered it more dangerous than in boys. The operation

was performed as follows: The fore and middle fingers of the left hand were inserted, one after the other, into the anus, while the right hand was placed on the lower abdomen. The stone was then sought for by the fingers of the left hand in the rectum, assisted by those of the right hand, which pressed from above into the pelvis, and kept the stone in front of the left fingers, so that these might press it from behind forwards against the neck of the bladder and perineum. The difficulties at this stage were fully recognized, for we are told that

when the stone is within the gripe it must be more cautiously and carefully handled in proportion as it is small and smooth, for a small and smooth stone is apt to slip back and to occasion much handling and tormenting of the bladder. For these reasons the fingers of the right hand are pressed in behind the stone, while with the fingers of the left hand it is brought downwards to the neck of the bladder. If the stone be oblong, let it be presented, lying along with one end turned towards the wound; if flat, with one end towards the wound; if square, resting upon two of its angles; if bigger towards one end, let the smaller end be presented to the wound. Whereas, when the stone is round, there can, from the figure of the stone, be no difference in which position it is presented, but from its roughness there may, if in a rough stone there be one smooth part, let that part come foremost.

Such reasoning as this shows that the early operators not only knew of the difficulties that were likely to arise, but were capable of obviating them as far as circumstances would allow. The next step was to make the incision directly on to the stone.

This was "of a lunated form, not far from the anus, and with the horns of this lunated incision looking towards the hips. Then, in the deeper and narrower part of the wound, is to be made a second incision, also transverse, into the neck of the bladder itself till the flowing out of the urine shows the incision to exceed in some degree the size of the stone. The neck of the bladder being thus opened the stone itself comes into view, which, if small, is to be got out with the fingers alone, the fingers of the left hand pushing it forward from within, while the fingers of the right help to pick it out, but, if it be larger, a hook, made on purpose, must be slipped in behind it."

This hook, we are told, "should be flattened and bent into a semicircular form, smooth on its back part, where it presses against the parts and rough where it touches the stone, and it should be rather long, for a shorter hook has little power."

Such careful detail could hardly be improved upon; and when we read the directions for its use, we see that the operators had at least given attention to their work, for we are told that

when the hook is fixed behind the stone it must be moved from side to side to work the stone forwards, for the stone, if it be fairly catched by the hook, moves along with it, whereas if you merely press upon the stone without moving it thus from side to side it will slip, it will escape again into the bladder, and the point of the hook will strike against the edges of the wound. Having secured a fair hold of the stone, you are to perform at one moment three separate motions—namely, from one side to the other and directly forwards, but all quietly, taking care first to draw the stone a little downwards. Finally the handle of the hook must be raised that the lower end may press deeper behind the stone, which may be then more easily protruded. The stone, if it be not easily catched from above, may be extracted by slipping in the hook from one side.

Celsus was fully alive to the danger of dragging a large stone through a small incision, and he therefore recommends that "when the stone is too large to be extracted without laceration of the neck of the bladder it is to be broken." This was accomplished by fixing it with the hook and then striking it with a suitable iron instrument.

Such, then, was the nature and scope of the operation as described by Celsus, and for many centuries it was the only one that was resorted to. There were obviously many dangers connected with it, and it would not be unfair to assume a high mortality. The operators, however, had the sympathy and support of the public, though they were not regarded favourably by the profession. One especially rendered himself obnoxious to the regular practitioners by the success he attained in the practice of this procedure. This was Le Raoues, who operated in the seventeenth century in the principal cities in France, long after surgeons had established the operation known as the Marian. When one reads of his skill in operating, and considers that surgeons were then performing the Marian, with all its horrible cruelties, it is easy to understand that the advantage was with him as regards results. His operation was an advance on the apparatus minor as described by Celsus, for instead of using it only for boys from 9 to 14 years of age, he cut men of all ages, and did not hesitate to pass three fingers into the rectum when necessary. His incision, instead of being transverse and lunated, was longitudinal and curved to the left of the middle line. Further, by drawing the skin of the perineum to the right and pushing the stone towards the left, he obtained an oblique or valvular incision on to the stone, so that the bladder should be closed afterwards. This, however, could hardly have been an advantage, as the risk of extravasation of urine must have thereby been considerably increased. He is, however, reported to have operated on a nobleman who was able on the ninth day to walk round the city with his operator. Raoues, after having operated with great success in the provinces of France, appeared in Paris, and managed to gain access to the society of learned men, where, in the presence of the Prince of Condé, he stated that he had discovered a new way of cutting for stone—more expeditious, safe, and easy than that by the Marian then in use. This brought down on him the wrath of the physicians, and more especially of Collot, the King's lithotomist, who did not hesitate to say that he operated on men who had not the stone, and that the one produced was one which he held in his sleeve and dropped into the palm of his hand at the proper moment, and presented to the spectators, soiled with the blood of the wound. In spite of such hostile criticism there can be no doubt whatever that his was a plain, simple, and successful operation, which he well knew how to perform, and there was no need for him to resort to deception. He was therefore bound to make enemies, many of whom invented tales against him.

The incision in the apparatus minor, up to the time of Celsus at any rate, was transverse and lunated; the incision of Raoues was also lunated, but it was nearly an inch to the left of the middle line, a sort of semicircle around the tuber ischii. It is not known when this was changed for a longitudinal incision, but about this time the incision was made in a direction similar to that of the Marian, that is, in a lateral direction. In the case of the apparatus minor the incision was made on to the stone, while in the Marian it was made on to the staff. The original transverse incision was open to many objections, for the parts cut varied according to the degree in which they were protruded by the fingers, and it was quite possible to completely sever the urethra from the bladder, an accident which might also happen with the lateral lunated incision. The extraction of the stone was comparatively simple, provided a suitable incision was made, and there was the further advantage that no gorgets were used. The bladder was entered by a clean cut of sufficient size, but unfortunately, it was possible by this very method to inflict irreparable harm, and at all times there must have been a great uncertainty as to what parts were being cut. The dangers and difficulties of this operation were therefore very considerable. Great pain was caused by bringing a rough stone to the surface in a chronically inflamed bladder. The irregularity of the stone frequently caused the incision upon it to be so uneven as to render its extraction difficult. The possibility of damaging the rectum with the fingers was very real. In a stout patient the size of the bladder, and its distance from the surface, rendered it difficult to protrude the stone, and it was very difficult to retain it in that position in the case of a very smooth stone. There was also the fact that the surgeon's fingers became tired when pressing down the stone on to the perineum. It was not, however, until early in the sixteenth century that any serious attempt was made to introduce any other operation in place of this, and it is somewhat uncertain as to the exact reasons that caused the new procedure to be adopted. It has been suggested that the first idea of this may have arisen from observing how easily stones were frequently voided by women, either naturally, or with some assistance; the shortness and great dilatability of the urethra in women giving a comparatively easy passage to the stone. It may, therefore, have been argued that if an opening were made into the male urethra near the bladder, so as to have the intermediate parts as short as in women, it might be dilated and the stone extracted with ease. Such an operation was also in accord with the view generally held at that time, that a wound of a membranous organ, such as the bladder, was mortal. Thus it may have been that, seeing the dangers and difficulties of the apparatus minor, men were honestly searching for an improved method; or was it from less worthy motives that the new operation

was introduced? Such, at any rate, was the reason if we are to believe Heister, who says that physicians abandoned it because—

Their fees were melting away, their gains and honours were intercepted by quacks. They invented, therefore, new and curious operations, not to cut men more easily, but to display their learning. They first proved by an aphorism of Hippocrates that wounds in membranous parts are mortal. Thence they deduced this rule, that, whatever external incisions might be required, the neck of the bladder itself should never be divided with the knife, but should only be dilated with instruments of various forms.

They willingly forgot the maxim of Celsus, "that there is greater danger in dilating the neck of the bladder than in opening it by incision." They therefore dilated the parts rather than cut them, and the simplicity of the apparatus minor, and the ease with which it was performed, may have been, if we are to accept this view, their chief objection to it.

Those (says Heister) who choose to speak contemptuously of this method represent it as an operation fit only for quacks and mountebanks, as an operation too low and contemptible even to be practised by regular surgeons and physicians. Modern surgeons have invented more cunning and curious methods, such as the vulgar do not know, such as must captivate all ranks of men, the rich and great as well as the vulgar, by the profusion and elegance of the apparatus.

The operation that superseded the apparatus minor was called, not without good reason, the apparatus major, or, from its having been described by Marianus Sanctus Barolitanus, the Marian operation. The instruments used were well calculated to impress the great with admiration and reverence, provided they were not likely to require its assistance; but the feelings of the unfortunate patient must have been those of mingled dread and fear, while the spectators of this agonizing proceeding must have left the scene with a silent prayer to be delivered from the troubles incident to a vesical calculus. The inventor of this horrible operation was one Joannes de Romanis, a surgeon of Cremona in Italy, but for some reason he did not publish any account of it. This omission, however, was made good by his pupil, the eloquent Marianus, in 1524, who was quite equal to the task of presenting it to the public in language that would convince them of its virtues. Even the fact that it was to be performed by the use of an ordinary barber's razor did not disturb him, for he proceeds:

The barber's razor, friendly reader, is a most important weapon, wherewith, when the business is to shave, cut close, and utterly subdue a stubborn and rebellious beard, the barber mows down the hairs, thousands falling before him at each remorseless stroke.

All the instruments in their turn are spoken of in the same strain, but as dilatation was the chief purpose of the operation, the description of these instruments of torture excels even that of the razor. He says:

Look—look but to the aperiens, how it gapes with desire when the conductors have made way for its approaching, and, seizing the stone, it rages like the ferocious soldier ready to enter the breach in the walls of the besieged city. Next come the voracious and vociferous forceps themselves, which often, when their morsel is too large for them to devour, cry out for the aid of their two supporters, or latera, which are then laid side by side with the forceps.

The operation thus fantastically described was performed by introducing a grooved staff into the bladder, then opening the perineum by an incision in a longitudinal direction to one side of the middle line, which, however, did not pass backwards through the transverse perineal muscle into the ischio-rectal fossa, thus considerably limiting the space through which the stone had to be removed. The groove in the staff was then felt for and the membranous urethra opened by fixing the point of the knife in the staff. A probe was then passed along the knife into the groove and along this into the bladder. The staff was now withdrawn. The operator then took two conductors, like strong iron probes, one, called the female conductor, having a groove in it, the other, the male conductor, having a probe point corresponding to the groove. The female conductor was passed along the probe into the bladder; this was then removed and the male conductor was passed along the groove in the female conductor until it also was in the bladder. Then, indeed, the operator was in a position to carry out his principle of dilating the deep parts, for taking a conductor in each hand he separated them to such an extent as to dilate, or rather tear open, the prostate. The wound was now prepared for the introduction of the dilator, an instrument resembling forceps, whose points diverged and opened when the handles were pressed together. The dilator was passed into the bladder between the conductors, and the wound was stretched until it would admit the forceps. Finally, the dilator was removed and the forceps were introduced between the conductors, the stone was seized, and the conductors removed. If now the stone could be extracted, there was no further need for help, but if, as Marianus said, the stone was too large for them to devour, they cry out for the aid of their two supporters or latera. These were passed by the side of the forceps and locked upon the stone so that the whole resembled a four-bladed forceps. The latera were so constructed that on clasping the handles the points closed and the hinges rose, so that the instrument served at once the double purpose of dilators and assistant forceps.

This barbarous procedure did not entirely supersede the more simple, and probably at least equally successful, apparatus minor, for, writing in 1808 on lithotomy, Allan says of the apparatus minor:

It was longer practised than all the other methods for lithotomy put together, and was performed at Bordeaux, Paris, and other places in France on patients of all ages by Raouss, even so late as 140 years ago. It was one of the operations of Frère Jaques, for he had two; in performing it he made a longitudinal instead of a lunated and transverse incision. It was practised with great success by Heister, and when a staff is used to prevent the wounding of the urethra, it is still the preferable way of operating in boys. Instead of driving a gorget into the bladder of a child, which, from the smallness of the parts, is a most perilous stroke, even in the hands of an expert surgeon, we would introduce a small staff, cut upon it till we reached the bladder, then introduce the fore and middle fingers, well oiled, into the rectum, bring forward the stone, and by cutting directly upon it force it out. There is no difficult dissection, no depth of parts, no protracted sufferings, no mangling with the forceps, no possibility of doing harm—the staff prevents the bladder from being severed from the urethra. It is performed in two minutes, and this method of operating we would invariably recommend in operating on boys under 14 years of age.

Thus we see that with slight modifications the Celsian operation was in favour with some surgeons for over two hundred years after the account of the Marian was published. In spite of its many defects the apparatus major found many ardent supporters, and it was taken up and run as a special procedure by the Collots, the first of whom, Laurent Collot, was appointed to the position of court lithotomist in 1556 by Henry II of France. The Collots were famous lithotomists for eight generations, but they kept their exact method of operating a secret. There are two statements as to how this became known—one that a book was found in the closet of the elder Collot, written in his old age, containing an authentic account of his operation; the other and more exciting version being that some surgeons bored through the ceiling of the operating theatre at La Charité in order to watch the great operator at work. They were rewarded for their trouble by seeing him do an operation which was only a slight modification of the Marian, which was well known to all those practising lithotomy. The operator was Jerome Collot, who died in 1684. The Collots were strong supporters of dilatation; indeed, they considered that the whole secret in operating lay in the dexterous use of the dilators, and when the gorget was invented one of this family took upon himself to defend the dilator, which it was intended to replace. The gorget was not at first a cutting instrument, but merely a blunt wedge, a scoop of conical form, which, from the form of its beak, slipped easily along the groove of the staff, and by its wedge-like shape dilated the wound, and by the groove or hollow served as a conductor for the forceps.

I do not deny (says Collot) that those who refuse the use of the dilator may find themselves successful with the gorget—the gorget may be a commendable invention, but this I will say, that those who thought it necessary to invent the gorget must have understood very little the way of using the dilator, for the use of this instrument may be regarded as a sort of secret in the art not to be acquired but by being taught.

Marianus draws attention to the fact "that while the dilator was passed between the male and female conductors it was necessary to hold them perfectly steady and firm," the reason for this being that unless this precaution was taken they might be forced through the fundus of the bladder, as was actually seen by Saviard in a case

operated on by another surgeon. Such was the reality of this danger that some conductors were made with holes, through which crosspins were placed to prevent their being pushed in; others were made with cross handles, like a Roman sword. The wound left after this operation was not likely to heal, nor did it, and in nearly every case that survived the operation a fistula was left for life. A cannula was usually inserted into the bladder after the operation, and Collot was active in support of this, for he criticized Frère Jaques for healing the wound too early. The horrors of this operation were so great that as soon as Frère Jaques appeared with his operation he had a considerable following, though the Marian operation had a fascination for many who had been taught its mysteries. Some, indeed, while professing to do it, modified it to a great extent. They commenced by cutting low in the perineum, but added to this an incision in the prostate by running the knife forwards in the deep part of the wound. This, of course, was against the traditions of the Marian operation, where dilatation was laid down as the foundation on which it stood. One of the most noted men who in theory supported dilatation as opposed to incision was Le Cat, a lithotomist of Rouen, who was ambitious of being considered an original inventor, and would not perform an operation which was not in some sense his own. He was constantly changing his methods and his instruments, and at the same time that he was insisting that dilatation alone was safe he was in practice dividing the prostate with the knife, much as other lithotomists were then doing who had openly adopted the operation of Frère Jaques.

In studying the Marian operation we see that it was faultily conceived, and so rough in its detail that the patient stood but a poor chance. The operators desired not to cut into the bladder, but to effect an entrance by dilatation. The incision was placed too far forwards, and was in the perineum, and did not extend into the ischio-rectal fossa, where there was more room for the passage of the stone. The urethra was opened through the bulbous portion, and, as the surgeon was impressed by the idea that membranous parts should not be cut, the membranous urethra together with the prostate and neck of the bladder were dilated, or rather torn open, by his instruments. The destruction of so great a length of the urethra—for by the time the operation was completed it amounted to this—led to the formation of a permanent fistula, if the patient escaped the ordeal with his life. As to the actual mortality attending this procedure a glance at the list of the operations performed in the hospital of La Charité and collected by Morand on his return from England, where he had learnt the lateral operation from Cheselden, will show that there was room for improvement.

Year.	Number Cut.	Deaths.
1731	14	8
1732	11	4
1733	16	8
1734	17	9
1735	13	9
Total	71	38

These operations were performed by the best lithotomists in Paris, and they represent what the actual mortality of the Marian operation was when done under the most favourable circumstances. We do not know the condition of those who escaped death, but we can form some idea of their miserable condition by remembering that probably most of them had incurable fistulae with such attendant troubles, discomforts and dangers as are incident to this condition. While the credit of having introduced the lateral operation should be given to Frère Jaques, it is interesting to know that an almost similar operation was practised by one Pierre Franco, and an account of it published about one hundred and fifty years before Jaques was agitating the profession and the public in Paris by his own operation. In 1556 Pierre Franco published a work on the lateral operation and other branches of surgery, and though from his account it was an enormous advance on the Marian operation, no one appears to have followed his description, or to have thought it worthy of notice. Indeed, Ambroise Paré, who published his immense volume of surgery in 1561, makes no mention of Franco's operation. The operation was performed as follows:

> With a grooved staff in the urethra an incision is to be made between the anus and the testicles, 2 or 3 fingerbreadths from the anus, 1 or 2 fingerbreadths from the side of the commissure of the perineum. This must be done with a razor that cuts on both sides towards the point, and cuts well, being small at the point, for it is necessary that it should cut at the point. The razor is introduced into the groove in the staff and passed into the bladder so as to divide the neck, the opening being according to the size of the stone. The razor is withdrawn and a gorget introduced into the groove in the staff and pushed into the bladder; when it is in the bladder the staff is to be withdrawn and the forceps are to be passed upon the gorget into the bladder. The gorget is now withdrawn and the stone must be removed, or if too large must be broken.

This operation seems to have been a better one than that first practised by Frère Jaques; indeed, it was in many respects on a par with his second operation; yet Franco was treated with contempt during his life. No one appears to have grasped the advantages of this comparatively simple procedure, and, though he cannot be credited with having induced surgeons to adopt his method, he at any rate brought it to their notice.

When Frère Jaques appeared in Paris in 1697 and exhibited to the profession his method of extracting the stone, there was a general feeling, not only among the profession, but among the public, that here, at any rate, was a method that, so far as extracting the stone was concerned, was less brutal and far quicker than the Marian operation, and that, whether the results were good or bad, the patient was spared the prolonged agonies of this procedure. The principle of the operation as performed by Jaques was to cut, and not to dilate, the deeper parts of the wound. He it was who showed that wounds of membranous parts were not mortal, and that Celsus was right when he said "it is safer to cut than to dilate." By some he was regarded as one sent from heaven to alleviate the sufferings of his fellow creatures. By his enemies—and he naturally had them—he was spoken of in different terms. He was born of poor parents in Beaufort in the year 1657, and his only education was some instruction in reading and writing. When he was 21 years of age he became the servant of a quack of the name of Pauloni, and for six years he travelled about France with him, acting as his assistant, and helping him with his operations on those suffering with stone. When, however, Pauloni went to Venice, Jaques found his way back to his own country and practised those operations at which he had hitherto only assisted. At about the age of 40 he became impressed with the most enthusiastic sentiments of religion and resolved to devote his life to works of charity. He travelled over the provinces of France, assuming the name and character of a hermit or religious man, and he cut those who came to him with stone. He appears to have extracted certificates from the friends of those on whom he operated, who were astonished at the dexterity with which he extracted the stone. He, however, had the sense not to wait until the time of cure arrived, but at once passed on to another district, leaving his patients to their fate, and many of them died. Finally, he met with some real success among those of high rank, and one of his patients, a canon of the Metropolitan Church, advised him to go at once to Paris. This he did and took letters from him to one of the canons of the church of Notre Dame, together with numerous certificates from the magistrates of the towns and provinces which he had visited. On arriving in Paris he introduced himself at the hospital of La Charité, through M. Maréchal, the first surgeon, but the physicians of that hospital would not allow him to operate, though he had come to Paris with the sole object of teaching a new and particular manner of cutting for the stone. The difficulty was, however, soon overcome, for the canon to whom he had been introduced presented him to De Harley, first President of the Parliament of Paris, who became his friend and protector, and he was permitted to demonstrate his operation at the Hôtel-Dieu. Frère Jaques's operation was done as follows:

> Having introduced a staff into the bladder, without a groove, he took a long knife with which he made an incision by the side of the left ischium, and cutting obliquely upwards he divided all the parts between the tuber ischii and the staff,

which he allowed to remain in the bladder; he cut so freely upon the staff as to admit the finger into the bladder; along the finger he introduced an instrument which he called his conductor, as if to dilate the wound, and along the conductor he passed the forceps. Having introduced the forceps he withdrew the conductor; upon finding the stone he withdrew the staff also, and having seized the stone he drew it out.

The interest excited by this operation was so great that M. Méry was requested by the Lord President to draw up a report on it. This he did, and fully recognized and drew attention to the points in the operation in which, in his opinion, it was superior to the Marian. He considered it more favourable with respect to the extraction of the stone than that in common use, for a wound made thus in the neck of the bladder will permit the stone to pass easily, and being extracted through the widest part of the opening of the pelvis, it will be brought along without violence; whereas in the common operation, there being no incision but in the urethra, and the stone being forced through the neck of the bladder still entire, and through the narrowest part of the arch of the pelvis, the operation cannot be accomplished without extreme difficulty, and (whenever the stone is large) with great violence. He considered that the operation of Frère Jaques must be less liable to accidents than that in common use. The muscles of the penis were uncut, and the prostate and neck of the bladder were divided, instead of the more vascular bulbous portion of the urethra. The incision in the Marian operation was in the perineum, while that of Frère Jaques was further back where the exit from the pelvis was wider, thus adding greatly to the facility with which the stone could be extracted. Fistula was also less likely to follow an operation when parts were cut rather than torn asunder. This report of M. Méry's was a fair and impartial statement of the merits of the new operation, but it raised a storm of indignation in the profession, and in a short time Méry, who lacked the strength to maintain his opinion, joined those who were opposed to Jaques, and he condemned the operation he had so recently approved. A further trial of Jaques's skill was required, and the President instructed Méry to make a second report. Unfortunately for Jacques, his next two cases were failures. One was a boy whose urethra he nearly severed from his bladder, the other was a female whose vagina he cut entirely across and opened the bladder from the place where the ureters enter, up to the beginning of the urethra. It was, therefore, obviously impossible to report favourably on these two cases, and Méry now retracted the opinion he had previously given of the operation, and the support of the President, Harley, was consequently withdrawn. Jaques now went to Fontainebleau, where the Court was, and here he was fortunate enough to gain the friendship of the Court physicians and of the King himself. He became intimate with Duchesne, Bourdelot, Fagon, and with Félix, body surgeon to Louis XIV. Fortune now smiled on Jaques, for when these influential men were expressing the most earnest desire to see him operate on a living body, a boy was found who was badly afflicted with the stone, and on him Jaques performed his operation in the presence of the leading Court physicians with perfect success. The operation was rapidly performed. The boy passed his urine naturally soon afterwards, and in three weeks after the operation he was seen walking in the streets. Jaques cut six others while at Fontainebleau, and the King was heard to say, "This is a man that must not be neglected." Jaques was accordingly lodged and maintained at His Majesty's expense. The King soon returned to Versailles, and Jaques entered Paris for the second time, and as the report of his recent successes was made known, three patients were brought to him on whom he operated with such success that the President, Harley, again asked for a report from the surgeons and physicians of the Hôtel-Dieu. As a result of this request a meeting was held in the Archbishop's Palace on April 7th, 1698, at which were present the magistrates of the city, the physicians and surgeons, and the managers of the Hôtel-Dieu. Méry opened the debate, and now spoke unfavourably of the operation, reflecting the opinion of the surgeons and lithotomists who were hostile to Jaques. Finally, however, the physicians and the friends of Jaques expressed the opinion that he should be allowed a further trial in the hospitals, and in spite of the hostility shown by Méry and his party it was decided that he should be permitted to perform operations in La Charité and the Hôtel-Dieu. Jaques now operated in public at the hospitals, and so great was the desire of all to see him that sentries had to be placed at the gates to keep the mob back. Men from all parts came to see him operate, and they were greatly impressed with his boldness and rapidity, for it is stated that on one occasion he cut nine patients in three-quarters of an hour—a very remarkable performance when compared with the time taken in operating by the Marian.

For a time all went well, and his enemies seemed unable to attack him with any success; but before long his patients began to die, both in the Hôtel-Dieu and in La Charité, in such numbers that, disappointed and broken by persecutions, he left Paris and travelled first in the provinces and then in Holland and Germany, where he was well received by those who saw him operate. Impartial observers of Jaques soon discovered that his operation was a great advance on the Marian, and Maréchal in Paris, Raw in Holland, and Cheselden in England adopted it and put it to the test. There was one also who was deeply impressed by this procedure, and that was M. Fagon, who had shown much kindness to Jaques on his visit to Versailles, and had remained true to him even after his misfortunes in Paris. Fagon was himself afflicted with stone, and, in spite of the fact that all the best surgeons in France and Holland performed this new operation, resolved to place himself in Jaques's hands. He therefore, in the year 1700, called him to Versailles, lodged him in his own house, and persuaded him to go through a complete course of studies and dissections. This he did under the guidance of Fagon; then a series of operations were performed on dead bodies, and the parts afterwards dissected by Du Verney, the anatomist, who with Félix, the King's body surgeon, and Fagon, his future patient, discussed the various points of the operation with Jaques. As the result of these experiments, he formulated his second operation, giving up the use of the round staff, and using a grooved one instead. The incision was now no longer made with the long dagger-shaped knife, but with an ordinary scalpel, the position of the incision being similar to that of his first operation. The deeper incision was, however, quite different, for, instead of passing the knife through the cellular tissue that surrounds the rectum or seeking the body of the bladder, the neck of the bladder and the prostate were cut by passing the knife along the groove in the staff, and thus incising the prostate. The rectum and pudic artery were out of danger, as the knife was not plunged blindly among the parts. Jaques now put his improved operation to the test, and cut thirty-eight patients in Versailles without losing one. He fully recognized the help that had been given him by this staunch supporter, and he saw the value of a knowledge of the anatomy of the parts, of the advantage of the grooved staff, and of the method of making the deep incision by passing the knife along the groove. A critical time now came in Jaques's career, for not only was M. Fagon afflicted with stone, but the Maréchal de Lorges was also the subject of stone. M. Fagon, who had been so largely instrumental in perfecting the operation, had actually been sounded by Jaques, when he was prevailed upon by his friends to place himself in the hands of Maréchal, who had learnt to perform Jaques's operation. This he did, and was cut by him with complete success. The Maréchal de Lorges took every precaution to ensure success in his own case at the hands of Jaques. He collected twenty-two patients with stone, who were cut by Jaques with perfect success. He then submitted to the operation himself, and died in tortures the next day. This was a fatal blow to the reputation of Jaques, and he left Paris, never to return. He travelled over the Continent of Europe, and operated with great success. At The Hague the magistrates had his portrait engraved and presented him with a set of golden sounds. In Amsterdam, by the permission of the magistrates, he cut patients in the hospitals. In 1707 he was again at Versailles, and visited his old friend M. Fagon. He went to Vienna, Venice, Padua, and Rome, and finally died at his native village in 1715. The career of this remarkable man is full of interest and romance, and few men have effected such a change in any surgical procedure as he did in the operation for stone in the bladder.

THE CLINICAL SYMPTOMS AND TREATMENT OF CHRONIC SUBCUTANEOUS FIBROSIS.

BY

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With the exception of a short article bearing the title "De la Panniculite," by A. Kjellberg,[1] of Stockholm, which appeared in the *Journal des praticiens* for 1900, and in which reference is made to a previous description by Professor Salin, also of Stockholm, I have been unable to find any systematic account of this condition. Cases illustrating one clinical aspect of it have often been reported as "symmetrical diffuse lipoma," "symmetrical fatty tumours," or "diffuse fibro-fatty tumours"; and Dercum,[2] in 1892, in an article entitled, "Three cases of a hitherto unclassified affection resembling in its grosser aspects obesity, but associated with special nervous symptoms—Adiposis dolorosa," described a fatty condition, more generalized than these, which he regarded as a special and previously unnoticed disease. The cases on which he based his description all occurred in women past middle life, who had gradually developed masses of fat in the subcutaneous areolar tissue, these masses being irregular in their position and distribution, and very painful on pressure.

Fig. 1.

Spontaneous pain of a constant dull aching character, or sharp and stabbing, was present in some of the swellings. Occasionally very severe paroxysms of pain occurred, and these were coincident with temporary swelling and hardening of the fat masses. The fat was not evenly deposited, but felt lumpy, lobulated, or like bundles of worms. Certain nervous symptoms were also described as characteristic, these being chiefly diminution of cutaneous sensibility in patches, motor weakness, a tendency to herpetic eruptions, and anidrosis. He distinguished the condition from ordinary obesity in that (1) the fat occurs in masses and is first deposited at one part, other parts being involved gradually; (2) the fatty masses are extremely painful on pressure, and (3) well-marked nervous symptoms are present. On these last he lays great stress. Subsequently Dercum[3] published an account of the *post-mortem* examination of his first case. She weighed 300 lb., and there was an excessive deposit of fat in the subcutaneous tissue of the arms, shoulders, and back, rather less in the abdomen and thighs. The fat is described as normal, but containing numerous independent encapsuled lipomata. The peripheral nerves lying in it showed interstitial neuritis with proliferation of the connective tissue and diminution in the number of nerve fibres.

Fig. 2.

Burr,[4] in another case, describes the fat as peculiarly fibrous and firm, with its peripheral nerves in a condition of interstitial neuritis, while Price[5] gives a practically similar description of the morbid anatomy, and expresses the opinion that the condition is due to changes in the pituitary body.

Dercum, on the other hand, had attributed its causation to an alteration in the function of the thyroid, and seemed to regard it as allied to myxoedema. A description of "adiposis dolorosa" (Dercum's disease) is now included in most of the recent textbooks, where it is variously classified under nervous diseases, constitutional diseases, obesity, and so forth. I am very doubtful, however, if it can be rightly ranked as a special disease. The condition was well known to me clinically for some years before I became acquainted with Dercum's original description of it, and I had come to conclusions different from his regarding its nature and etiology and the significance of the symptoms. These conclusions, stated shortly, are that the morbid condition is a very common one, and consists essentially in chronic subcutaneous fibrosis; and that the cases which Dercum has described under the name "adiposis dolorosa" are merely those occurring in people with a large amount of subcutaneous fat.

The excessive development of the subcutaneous fat is not an essential part of the morbid process, but only an accidental addition to it. The essential morbid condition is, as before said, a very common one, and occurs quite independently of bodily thinness or stoutness. It consists in an irregularly spread, patchy, chronic inflammation of the subcutaneous connective tissue, which involves also the small peripheral nerves and blood vessels. Owing to the involvement of the nerves, the fibrous tissue at the affected parts is painful on pressure, and is subject to aching or pain from many kinds of influences, such as exercise, weather changes, indigestion, and others less obvious.

The condition is in fact one of so-called "chronic rheumatism," but which might be better designated as "chronic subcutaneous fibrosis." The former is a clinical, the latter a pathological, term, and neither indicates a disease, but rather a condition secondary to several antecedent diseases.

In two former papers[6] I have described at length the pathology and symptoms of "chronic rheumatism," and I need only repeat here that, like the other fibrous tissues of the body, the subcutaneous connective tissue is very often the seat of chronic inflammatory changes as the result of acute rheumatism and influenza especially, but also after general gonococcal infection, mucous colitis, and other imperfectly recognized causes.

On microscopic examination of such a patch, the fibrous tissue is found to be thicker and denser than normal with numerous fibroblasts, the small nerve twigs running through it are in a condition of interstitial inflammation, and the small blood vessels show periarteritis and endoarteritis, the whole being evidently the result of a reaction to local irritation by microbic toxins. It is extremely common at all ages and in both sexes, and is quite independent of obesity.

The implication of the nerves gives rise to symptoms usually designated as "rheumatic"—aching, pain, stiffness, neuralgias, numbness, tingling, a feeling of chilliness, fatigue after exertion, muscular lassitude, and often a marked want of vigour and energy. These last symptoms are sometimes so prominent that the condition is very frequently, but erroneously, diagnosed as "neurasthenia." The thickenings can be readily felt and are usually very tender on pressure. When much subcutaneous fat is already present, or is afterwards deposited in persons suffering from subcutaneous fibrosis, the symptoms just mentioned tend to be of an aggravated character. Further, the hypertrophy of the connective tissue leads to certain peculiarities in the arrangement of the subcutaneous fat.

Normally fat is deposited evenly throughout the areolar tissue; it is not nodular or lumpy, and is not specially tender on pressure; but in persons with subcutaneous fibrosis it tends to form in more or less lumpy masses round the hypertrophied connective tissue, and to lie in rolls if very abundant (Fig. 1). In merely plump people the masses are pealike and very tender on pressure or pinching, while in the very stout they form veritable tumours of varying sizes (Fig. 2). These may be lobular and lumpy, or more diffuse and fibro-fatty in character.

Many stout patients have normal fat in some places and lobulated in others. The latter arrangement seems

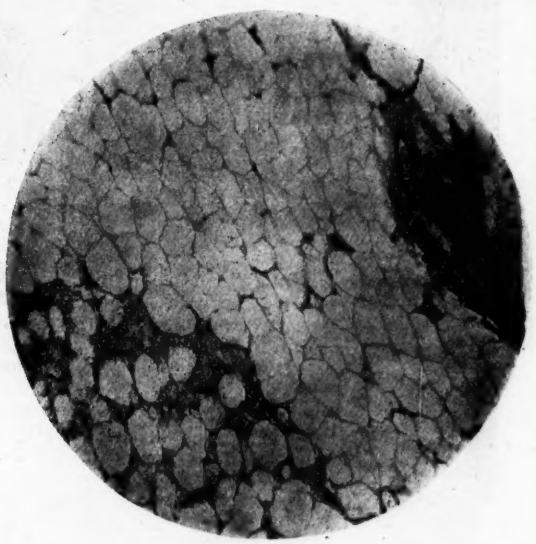

Fig. 3.

Fig. 4.

to be determined by the preceding overgrowth of fibrous tissue, as is well illustrated in the condition of the middle part of the anterior abdominal wall often induced by previous pregnancy. During the pregnancy the fibrous tissue is hypertrophied in patches, and around these fatty nodules form which can be readily felt and are usually tender on pressure. If the person is very stout and the face is involved, there is a superficial resemblance to myxoedema, for which it is sometimes mistaken.

In middle-aged and elderly people Heberden's nodes and stiffness of joints are often found associated with the other symptoms. The association of fat with the fibrosis is certainly much more common in women than in men, probably because they have a larger amount of subcutaneous fat normally. One of my female patients weighed 20 st. 3 lb., another 18½ st., and a third 16 st. 12 lb., but many of them only weighed 9 or 10 st.

The abdomen, flanks, hips, thighs, shoulders, and upper arms are in general the parts most affected, but sometimes fat is also deposited in the face, forearms, hands, legs and feet, either diffusely through the hypertrophied fibrous tissue or in lobules.

Where there is a large amount of subcutaneous fat the secretion of sweat is interfered with, but in most cases the amount of perspiration is normal.

The morbid anatomy is very simple. When excised portions of subcutaneous tissue are examined microscopically, the fibrous tissue, the peripheral nerves, and the blood vessels are found to be in a condition of chronic interstitial inflammation; the fat cells are normal in appearance. Figs. 3 and 4 show such patches of inflamed fibrous tissue embedded in fat cells.

In some cases the fibrous tissue is much denser than in others. The condition is analogous to fibrosis of the lung, liver, kidney, or ligaments, and, as in these cases, is due to chronic local irritation from the toxins of germs or more definite chemical bodies.

The most suitable name to apply to the condition is probably the pathological one of "chronic subcutaneous fibrosis," but, as already mentioned, the term "panniculitis" has been previously employed.

I have never noticed any abnormality of the thyroid gland.

To sum up:

1. Chronic inflammation of the subcutaneous connective tissue is a very common affection.
2. It is secondary to various acute and chronic infections.
3. The implication of the small peripheral nerves in the chronic inflammatory process gives rise to sensations of aching, stiffness, numbness, fatigue, etc.
4. When persons already stout, or who afterwards become so, are affected as above, the fat tends to form larger or smaller masses round the hypertrophied connective tissue.
5. These masses are often very painful on pressure owing to the nerve twigs being in a condition of interstitial neuritis.
6. The fatty masses are deposited mostly in the ordinary situations of fat accumulation.
7. The condition described by Dercum as "adiposis dolorosa" cannot be ranked as a special disease.

Treatment.

Cases of subcutaneous fibrosis can be treated with a considerable degree of success if treatment is gone about in the proper way and is persevered in.

In thin people we have to rely on massage, daily exercises, directed to stretch the altered fibrous tissue and to accustom it to movement, along with an habitually active and as far as possible open-air life.

If all this is systematically carried out for some months the inflamed fibrous tissues gradually lose their extreme liability to become painful on exertion or exposure to cold and wet, and the patient is restored to comparatively good health. Some cases get practically well, many are improved, and in all considerable benefit is assured. An habitually active mode of life with plenty of outdoor exercise is necessary to maintain the improvement.

The massage must be given firmly and so as to reach the affected parts. It is always painful at first, and should be given only by those who have had experience of similar cases. What probably happens is that the massage lessens or gets rid of the local neuritis, and favourably affects the inflamed small blood vessels, so that exudation

is not so apt to occur from them. It is commonly said to act by improving the flow of blood and lymph locally, but there is no exact knowledge on these points.

In stout or plump people the principles of treatment are the same, but in them we have to deal with two distinct conditions—the fatness and the chronic fibrosis. The inflamed fibrous tissue is relatively in very small amount compared to the fat round about it, and, thus embedded, it is a hopeless business to try and reach it and its inflamed nerves and vessels by means of massage.

Massage under such conditions is quite ineffective, and often unbearably painful.

The first step in treatment is to get rid of the superabundant fat, and this is best accomplished by a more or less strict diabetic diet, and the administration of thyroid gland or liquid extract of *Fucus vesiculosus*. Exercises can be commenced at once and massage somewhat later, or the latter can be instituted gently from the beginning, and increased in vigour as it becomes less painful. Unless the obesity can be substantially reduced, the prospects of improvement are very slight.

The paroxysmal neuralgic pains, which are sometimes very severe, and accompanied by a palpable hardening and swelling of the fibro-fatty tissue in the neighbourhood, often disappear or greatly lessen as the fat becomes absorbed. This is explainable by diminution of pressure on the inflamed nerves.

So far as I have been able to judge, hot baths and hot air have no direct curative effects, but, given before the massage and exercises, they render them less painful and probably more effective.

In those cases in which the subcutaneous fibrous tissue is dense and widespread, with little fat, or the fat evenly diffused through it, treatment does much less good than in the other forms. Peat baths, very gentle massage, and soothing treatment generally are sometimes indicated, as the patient cannot stand the pain and fatigue of the more vigorous curative measures, but experience has led me in this class of case to expect very moderate betterment.

As regards drugs, I have made careful trial of iodine in various forms, many antirheumatic and antigouty remedies, fibrolysin (thiosinamin), so-called ionic medication, and counter-irritation with a considerable variety of substances, but, so far, I have not met with any drug which has the power of dispersing the denser kind of cirrhotic fibrous tissue.

CASE I.

Woman, aged 33, a cook. Complains of aching and shooting pains all over her body, and increasing stoutness. She has not worked for three years, and was regarded as a case of incurable "neurasthenia." She has had rheumatic pains since she was 14 years of age, but they have become much worse of late. There is a thick layer of fat over the shoulders, backs of upper arms, abdomen, back, hips, and thighs. The fat is in lobulated masses, and these are very painful on pressure. In those regions there is continual dull pain, which at times becomes sharp and stabbing. Healthy otherwise.

Treatment.—A diabetic diet with a little brown bread, 5 grains thyroid daily, and massage. Before treatment was begun she weighed on December 15th, 1909, 10 st. 13 lb., and she measured, waist 30 in., abdomen 39½ in., and thighs 40 in. (Fig. 5). On April 20th, 1910, she weighed 8 st. 2 lb., and the measurements were 27, 32, and 34½ in. (Fig. 6). On October 5th she weighed 7 st. 9 lb., the fatty masses had disappeared, and there was no pain on pressure. She had lost 46 lb.—nearly one-third of her original weight. She had still rheumatic pain in the lumbar region, but felt well and was able to work.

CASE II.

Woman, aged 39. She began to get stout during pregnancy six years ago. The fat was not evenly distributed, but was in masses in the supraclavicular regions, across the abdominal wall in ridges, on the hips, along the inner sides of the thighs, and above the ankles. It was lobular, and very painful on pressure. The masses in the shoulders and thighs sometimes became hard and swollen, and then caused pain and a great feeling of fatigue. She scarcely perspires and often feels very chilly. Treatment consisted in dieting, along with 5 grains of thyroid daily at intervals. She was practically well in a year During that time she lost 30 lb. in weight—13 st. 3 lb. to 11 st. 1 lb. The abdominal measurement fell from 33 to 29½ in., and that of the thighs from 25½ to 22¼ in. The chilly feeling has gone and she perspires more easily.

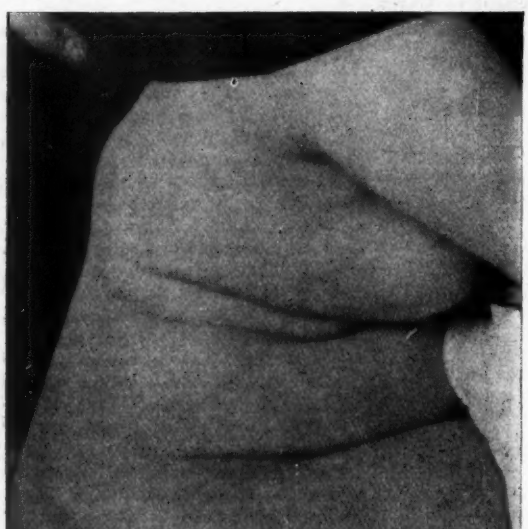

Fig. 5.

Fig. 6.

CASE III.

Girl, aged 22. In 1903 and 1908 she had attacks of acute rheumatism. In 1909 she complained of almost constant aching pain over the thorax, over both scapulae, and in both lower limbs. At times the pain became acute. She weighed 8 st. 3 lb., and was plump but not stout. Little pealike masses of fibro-fatty tissue could be felt in the subcutaneous tissue, and these were extremely tender on pressure. Her condition improved under treatment, but only to a certain extent.

CASE IV.

Woman, aged 50. For two and a half years past has noticed that she was getting stouter, especially over the abdomen and hips, where there were fibro-fatty masses. The face had a swollen and puffy look, due to increase of subcutaneous fibrous tissue, and a similar condition was present over the chest and along the fascia lata. The legs, forearms, feet, and hands were thin and slender. Heberden's nodes were present, and there was a good deal of pain and stiffness in the knees and in some of the hand and foot joints, due to swelling of the periarticular fibrous tissue. She suffered from constant aching and tiredness, and often from very severe neuralgic pains in the chest and arms. The condition was one of widespread subcutaneous fibrosis with little development of fat in it, except over the abdomen. The hypertrophied fibrous tissue was very tender

on pressure. She was treated with massage, diet, thyroid, antigouty and antirheumatic remedies, hydrotherapy, and in other ways, without obtaining much benefit.

CASE V.

Man, aged 54. He has had mucous colitis of moderate severity for many years. About eight years ago he began to suffer from stiffness and neuralgic pains, which have gradually become worse. He is a tall, muscular man, with a very moderate amount of subcutaneous fat. Weight, 13½ st. Over the chest, abdomen, back, shoulders, and upper arms, the subcutaneous tissue is swollen at points and very tender on pressure, but no distinct fatty nodules can be felt. The colitis and stiffness and pain improve under treatment, but never wholly leave him, and he is apt to have relapses unless he lives in dry hill air.

The first and third of these cases are almost certainly attributable to preceding attacks of rheumatism, and the fifth to chronic poisoning from the colitis. The second, like other cases I have seen, began during pregnancy, while the fourth must be due to some unknown irritant which has affected very widely and insidiously the subcutaneous fibrous tissue and that of many of the joints.

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THE USE OF LEUCOCYTIC EXTRACT IN INFECTIVE PROCESSES.

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THE injections of living leucocytes or their extracts have produced such remarkable effects upon artificial microbic infections in animals by way of prevention and of cure, that within the last three years investigations have been made into the action of similar injections upon infective processes in man.

Pettersson, who worked chiefly with living leucocytes obtained from the pleural or peritoneal cavities of rabbits or dogs, showed that an artificial anthrax infection in guinea-pigs was either overcome or the animals lived much longer than the controls, if a simultaneous injection of living leucocytes was made into the same area. The injection of living leucocytes into the blood stream had a certain influence, though not so well marked, upon a subcutaneous injection of anthrax. The leucocytes of an animal of a different species (dog or rabbit) injected into the peritoneum of a guinea-pig produced a great increase in the resistance of the animal against *B. typhosus*, *Vibrio metchnikovi*, and *V. cholera*. He performed many more experiments of this nature, and also made numerous investigations into the mode of action of these injections, as have also Korschun and Watabiki. Opie has also used living leucocytes and injected them into the pleural cavities of dogs previously infected with tubercle bacilli. The resulting tuberculous lesions were of "lessened extent and severity as compared with those controls," and "the animals did better, more often recovering."

Hiss and Zinsser pursued Pettersson's lines of investigations, but apparently always with the object of finding a method that would prove applicable to human infections. They worked almost entirely with an extract of leucocytes induced in the pleural cavity of rabbits. Staphylococci, *B. typhosus*, pneumococci, streptococci, and meningococci were administered to various series of rabbits in lethal doses, usually by peritoneal injection. Many of the animals survived, and in every case they lived longer than the controls. They proceeded to treat several human beings with leucocytic extract, and have so far published 24 cases of epidemic cerebro-spinal meningitis, with 63.6 per cent. of recoveries; 7 cases of lobar pneumonia and empyema, all recovered; 8 cases of chronic and acute furunculosis, with excellent results; 2 cases of chronic acne and 1 case of chronic frontal sinusitis (*Staphylococcus pyogenes aureus*) with success.

Floyd and Lucas treated 41 cases of lobar pneumonia, of which 5 died and 36 recovered. They report that in a number of cases the disease was apparently shortened, and there was noticeable improvement in the comfort and symptoms after the injections. The toxaemia was strikingly lessened, and there was a lower mortality in cases so treated than in a similar series untreated by this method.

Lambert reports more fully several cases that are included in the series of Hiss and Zinsser. In addition, 2 cases of pneumococcic meningitis, both of which died; 3 cases of ulcerative endocarditis (pneumococcal), upon which the leucocytic extract had no effect; 1 case of tertian malaria, whose rigors were stopped for nine days by leucocytic extract; several cases of erysipelas, with the most excellent results; and 1 case of otitis media.

METHOD OF PROCURING THE LEUCOCYTIC EXTRACT.

The author has employed throughout the method of Hiss and Zinsser for procuring the leucocytic extract from the pleural cavity of rabbits. Since it has succeeded almost invariably in producing good results, no necessity was found for resorting to the perhaps more effective methods of Pettersson and his followers, who use the more dangerous technique of abdominal injection.

A sterile 10 per cent. suspension of Mellin's food in distilled water was injected in amounts varying from 5 to 10 c.cm., according to the size of the animal, into each pleural cavity of a rabbit. The animal was killed twenty-four hours later, and the fluid exudate removed. Difficulty was experienced at first in obtaining this perfectly sterile until the following plan was adopted.

The skin is removed from the thorax and the ribs laid bare by cutting away the pectoral muscles. The surface of the ribs and intercostals is lightly scared over the whole side of the thorax, a 10 c.cm. syringe with a large bore needle is thrust into the pleural cavity, through an intercostal space, usually the seventh or eighth, and the fluid removed by suction. If the nearer cavity be emptied, it is easy with practice to thrust the needle through into the opposite pleural cavity, and thus the fluid from both cavities may be drawn off through the one external opening. The fluid should be pale yellow with a flocculent haze of leucocytes. Any large masses of Mellin's food must be removed by a preliminary sedimentation. Ten to 20 c.cm. is the average amount of fluid obtained. The exudate is rapidly placed in sterile centrifuge tubes and centrifugalized until a thick grey deposit of leucocytes appears at the bottom of the tube. The supernatant fluid is carefully pipetted off. The leucocytes may be again centrifugalized several times with fresh amounts of normal saline to free them from the last traces of exudate fluid. This is not, however, in the writer's opinion, absolutely necessary, and is usually dispensed with unless some circumstance should arise, such as the presence of a trace of blood. Distilled sterile water is then added in equal volume to the deposited leucocytes, which are well broken up with a pipette or glass rod. The tubes are placed in the incubator at 37° C. for at least four hours. Each tube is then tested for sterility, and, if sterile, the contents of several tubes are mixed and distributed in 10 c.cm. ampoules, which are placed in the ice chest until required. Leucocytic extract so prepared will remain effective for at least three months.

RECORDS OF TEN CASES TREATED.

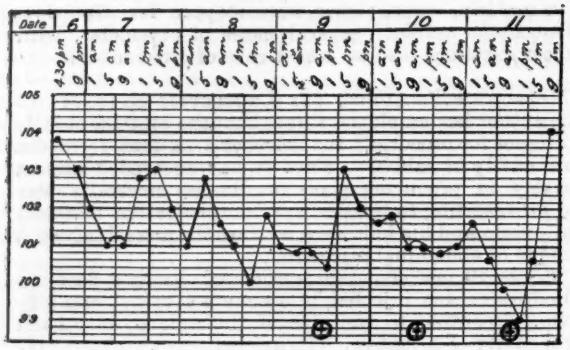
1. *Streptococcal Endocarditis.*—Male, aged 35. An autogenous vaccine had been administered without effect. The patient finally became unconscious with a continuous high temperature (102·5° to 103.8°). Two doses of 10 c.cm. of leucocytic extract were given. On each occasion the temperature fell to normal and the patient became conscious, recognizing relatives. He died two days after the second injection.

2. *Osteomyelitis of Tibia.*—Boy, aged 14. (*Staphylococcus aureus.*) Boy had received, when the condition became less acute, an autogenous vaccine, and reacted favourably for a time. A fresh collection of pus threatened, the vaccine was stopped, and 1 c.cm. of leucocytic extract administered on three successive days. The temperature, which had been running up to 102° at night, fell to normal by lysis, and remained at normal for nine days, when a small abscess appeared. This was the first case treated with leucocytic extract, hence the small dosage. After the opening of the abscess the boy's temperature fell again to normal, and he made an uneventful recovery. It cannot be contended that the boy's recovery was hastened, but the effect of such a small dose of the leucocytic extract was obvious.

3. *Ulcerative Endocarditis.*—Boy, aged 16. (Pneumococcal.) Sequela of pneumonia and empyema. The boy was almost moribund when treated, and two doses of 10 c.cm. had no effect.

4. *Sleeping Sickness.*—Man, aged 30. This case has been published *in extenso* by Professor Ronald Ross and Dr. D. Thomson. It may be stated here that very interesting and remarkable results were obtained.

5. *Hip Disease.*—Woman, aged 45. A large offensive, discharging sinus, which had some internal connexion, and which resisted all antiseptic treatment. The patient received three injections of 10 c.cm. leucocytic extract in fifteen days. The discharge became greatly diminished and lost its offensive smell. The patient left hospital still discharging freely.



⊕ 10 c.cm. leucocytic extract.

6. *Acute Osteomyelitis of Tibia.*—A boy, aged 14. A diagnosis of acute rheumatism had been made, and the boy entered hospital on the third day of illness. A blood culture gave 750 colonies of *Staphylococcus aureus* in each 1 c.cm. of blood. When the first dose (10 c.cm.) was given symptoms of pneumonia and pericarditis had appeared. The boy was delirious and semicomatose. The immediate effect of the leucocytic extract was to send the temperature up, but next day the patient was conscious, sensible, and his toxaemia had disappeared. Three injections of 10 c.cm. were given, with the effect seen in the chart. Death occurred four hours after the last injection. At the *post-mortem* examination there was found pericarditis, right pleurisy going on to empyema, and small abscesses in the liver and left lung. A pure culture of *Staphylococcus aureus* was recovered from all these lesions.

7. *Acute Osteomyelitis of Left Ilium.*—Boy, aged 15. Blood culture gave one colony of *Staphylococcus aureus* in each 1 c.cm. of blood. The leucocytic extract was administered in small doses of 4 to 6 c.cm. repeated frequently. The effect upon the temperature was temporary, and upon the discharge *nil*.

8. *Streptococcal Septicaemia.*—Man, aged 45. Blood poisoning through accidentally cutting his hand with a dirty cheese-knife. A blood culture was negative. The patient suffered from frequent rigors. Antistreptococcic serum, though well pushed, produced no effect. Leucocytic extract was injected in doses of 10 c.cm. on three successive days, and the rigors stopped. The patient died two days later. No *post-mortem* examination was permitted.

9. *Anthrax.*—Man, aged 30. Treated with Sclavo's serum and leucocytic extract. The patient recovered.

10. *Chronic Furunculosis.*—Man, aged 36. A year's duration; repeated crops of boils on arms, legs, body, and neck. Two injections of 8 and 10 c.cm. were given at an interval of three days. In a week after the second injection no fresh boils had appeared and the older boils had almost entirely disappeared. This case is still under observation.

These cases do not present any striking successes at first sight. Two factors have militated against more encouraging results:

1. Several of the cases have been handed over for treatment in a hopeless condition; thus any treatment which will give a measure of relief in such a case as No. 6, for example, is worthy of trial.
2. It is difficult to obtain permission to persevere with the treatment.

In some cases it is absolutely necessary to push the administration of the leucocytic extract, and the patient occasionally rebels although the temperature chart and the general condition witness an improvement. Thus cases which began to improve were lost.

The injections were given into the flank or into the buttock. No attempt was made to approximate the site of injection to the infected part.

MODE OF ACTION OF LEUCOCYTIC EXTRACT.

Pettersson, Hiss, and Zinsser have demonstrated bactericidal and bacteriolytic properties in leucocytic extracts *in vitro*. They agree that the power is not great and quite inadequate to account for the destruction of large doses of the bacillus of anthrax, which were administered in the guinea-pig experiments.

They at first considered that the leucocytes supplied complement to the infected organism; for Metchnikoff has claimed that the cytases (complement) are not normally free in the plasma, but are contained in the leucocytes and only given up by them under stress of death or injury. But they have not been able to prove the presence of complement in their extracts. Kling, however, has recently published experiments which may ultimately show that leucocytic extracts possess the power of reactivating serum, even leucocytic extract itself which has been inactivated by heat. The body which has this power is not identical with the complement of the serum, since it withstands heat at 70–75° C., whereas the serum alexine is readily destroyed at 56° C.

Pettersson, Hiss, and Zinsser finally agree in the theory of endolysins. Hiss and Zinsser say that the beneficial effects obtained by the administration of leucocyte extracts are due to

> the action of digestive substances usually not liberated from the leucocytes . . . to poison-neutralizing or destroying bodies, which act on the endotoxins and thus relieve the leucocytes of the animal from fatal poisoning and protect the higher cells of the animal so that their functions are not deranged.

Whether these theories be correct, I found that a marked leucocytosis followed an injection—a phenomenon not mentioned by other workers. Hiss and Zinsser give figures of blood counts in some of their cases of pneumonia, but these are in relation to the crisis and not to the injections. Floyd and Lucas state that:

> A study of the white count has frequently shown a steady diminution in the number of leucocytes present in the peripheral circulation following the beginning of inoculation until the termination of the disease . . . possibly suggesting a diminished demand upon their reproduction with the addition of the extract.

This has not been my experience, and below will be found a table of results. For this table I am greatly indebted to Dr. D. Thomson, who is engaged in research upon malaria at the Royal Southern Hospital for the Liverpool School of Tropical Medicine under the Colonial Office, and who first discovered that the leucocytic extract produced a leucocytosis.

Count Before.	Amount Injected.	Hours After.	Count After.
6,800	8 c.cm.	12 18	50,000 10,000
5,280	3 c.cm.	19	17,000
3,000 ... ... P. 41 % M. 59 %	10 c.cm.	24	20,000 P. 58 % M. 42 %
11,000 ... ... P. 41 % M. 59 %	6 c.cm.	17	4,500 P. 60 % M. 40 %
4,500	4 c.cm.	19	20,000

P. = Polymorphonuclear. M. = Mononuclear.

These figures were obtained from Case IV (sleeping sickness). Dr. Thomson proceeded with these counts throughout the course of the case, but remarks that:

> The later effects of injections were complicated by an abscess forming, and by the onset of bronchopneumonia. But after all injections there was invariably a marked leucocytosis within twenty-four hours. The whole case was complicated by variations in the number of leucocytes which is characteristic of the disease. Also the differential count varies in the disease, but it seemed that this leucocytic extract tended to affect the polymorphonuclear cells slightly more than the mononuclears, though both were markedly increased.

Dr. Thomson tried the effect upon himself on one occasion of 15 minims of leucocytic extract subcutaneously into the forearm. His leucocytes before injection were 5,500 per c.mm.—polymorphs, 63 per cent.; mononuclears, 37 per cent. Twenty-four hours later the count was 9,800 per c.mm.—polymorphs, 64 per cent.; mononuclears, 36 per cent. It appears from these counts that a new view may be taken of the action of these extracts. They may in themselves be bactericidal and bacteriolytic to

some slight degree, and they may contain natural anti-endotoxins. But they seem to act chiefly as leucocytic stimulants, inducing a huge outflow of cells, whose function is to protect the body from infection.

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ELECTRICITY IN NEURASTHENIA.*

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I WISH to bring before you the uses of some forms of electrical applications in the treatment of neurasthenia. But before doing so it is necessary to consider for a few minutes what is generally meant by neurasthenia. It is difficult in a few terse sentences to define this disease. The term has been applied so widely and to such various and varied symptoms that it would be impossible to discuss it exhaustively in the time at my disposal. But I will take the main symptoms as they have exhibited themselves in the cases I have had to treat. These may be general, or local, or a combination of both. The patients are usually irritable or depressed. They are very anxious and consider their condition as extremely dangerous to life. They frequently are in dread of becoming insane. Sometimes the brain appears to be too active, and they are constantly pestered by all kinds of possible and impossible problems presenting themselves to their imagination day and night. They dread meeting people; they fear they are victims to some imaginary disease. They are frequently worried and are annoyed by the veriest trifles. Everything is a cause of complaint. They are great egoists and feel compelled to discuss their troubles with every patient listener. Many of them sleep badly—in fact, insomnia is one of the most trying symptoms of the disease. They suffer from flushes and fullness in the head and sometimes severe headaches. Frequently there is a sense of oppression in the chest and difficulty of breathing. Tachycardia is common, and the patient believes he or she is suffering from severe heart disease. Many suffer from gastro-intestinal neurasthenia. Feelings of distension, noisy eructations, borborygmi, and gurgling are complained of. Anorexia is usual. There is often aching in the eyes and neuralgic pains in the head. Spinal symptoms are common—localized pains in the back, disturbances of sensation, and intercostal pains. In some cases there are pains in the extremities. The word that probably sums up the condition of the patient more than any other is—emotional.

The conditions which might be confused with neurasthenia are melancholia in which there are actual delusions, and hysteria in which there are marked hysterical paroxysms. Of course, tabes and general paralysis might also exhibit some of the symptoms mentioned—in their early stages, at any rate.

There is apparently no discoverable morbid anatomy in these cases, but there is undoubtedly a pathology. Hypertension appears to be a frequent concomitant, or perhaps a cause of the disease. According to Gay, the presence in the blood of alimentary toxins, generally acid and with a vaso-constrictor effect, and the retention of extractive substances of the xantho-uric series will cause hypertension. I believe, too, that a rigidity of the walls of the vessels set up by some central irritation of the nervous system is often present, and is a cause of a large number of the subjective symptoms. I have noticed, too, that this hypertension is not so readily observed by examination of the pulse as one would have thought. On examining the pulse of several neurasthenic patients the impression gained was that the pulses were not high tension, but the sphygmomanometer usually revealed a considerable amount of hypertension. The point I am anxious to show is this: That the symptoms declined *pari passu* with a decrease in the sphygmomanometric readings until, if the latter could be reduced to nearly normal, the patient became well.

I am not now concerned with the usual methods of treating neurasthenia. The cases I have had in hand have all received skilful medical treatment before they were sent to me. One or two had had Weir Mitchell treatment, in which, of course, a certain amount of electrical energy is used. The currents I have treated these cases with have been those known as high frequency, or d'Arsonvalization; or, as an alternative, static electricity produced by a Wimshurst machine. I may say, as a rule, that where the neurasthenia has been associated with marked metabolic deficiency, or of the gastro-intestinal type, I have found high frequency currents the most effective; but if the symptoms pointed more to a condition of a pure neurosis, I have observed that static electricity produces the best results. (Here followed a description, with illustrations, of the high frequency and static machines used.)

I wish to draw attention to a few cases treated by these methods during the last few years. I will not record a large number, because they give, to a great extent, a mere recapitulation of the same class of disease. I think I may say that in most cases the results of treatment have been permanent:

1. Unmarried woman, aged 46. Gastro-intestinal neurasthenia, flatulency, tachycardia, panophobia; ill six months. Received auto-condensation high frequency on the couch thrice weekly from April 7th, 1904, to May 13th. Cured.

2. Lady, aged 36. Insomnia, restlessness, depressed; great fear of railway travelling (sidero-dro-mophobia); pains in limbs and in breasts; ill many months. Twelve applications of general static electricity. Cured.

3. Gentleman, aged 38. Depression, insomnia, distension of stomach, flatulency; ill for more than twelve months. Had been treated, in addition to ordinary methods, previously by light baths and Weir Mitchell treatment. Received 300 to 500 milliampères of auto-condensation for half an hour at a time and a few minutes' application of a glass vacuum electrode over stomach. Attended eighteen times between June 14th, 1907, and July 31st. Cured, and has remained so.

4. Mr. P., aged 35. Remarkable case. Began with nervous symptoms in 190 ; always frightened, dreading what he could not describe; constantly thinking in bed; pain in head, with fullness mostly at back of head; always burning pains in stomach and sense of distension; bowels somewhat loose; terrible insomnia, had never slept more than an hour or so consecutively for years. Had nineteen applications of auto-condensation, 400 to 800 milliampères of current, for half an hour at a time, and local glass electrodes to stomach, head, and spine. Blood tension, according to the Riva-Rocci, on first treatment, 190; at end of treatment only 120 to 130. Cured, and has remained perfectly well for over two years.

5. Miss S., aged 25. Nervous, depressed, insomnia, etc., many months. Twelve applications static electricity. Cured.

6. Mr. W., aged 39. Twelve months before treatment began to lose appetite, could not sleep, and always tired; gets horribly depressed, sometimes feeling almost suicidal; bowels sometimes constipated, sometimes loose; very irritable. Treated by high frequency auto-condensation and glass vacuum electrode to stomach and head. Remained cured over two years.

7. Gentleman, aged 59. More or less insomnia four or five years. Aching pains and fullness in the head; some distension and flatulency; insomnia now constant; arterial tension 180. Had twelve and a half hours' applications of auto-condensation and local electrodes to head and stomach. Now sleeps soundly, and arterial tension 120 to 130, and feels quite well.

8. Lady, aged 33. Very neurotic; complains of her head, difficulty of breathing, and sobbing respiration; ovarian neuralgia; constant insomnia; blood tension 160. After twelve applications of static bath slept perfectly, and difficulty of breathing, etc., disappeared. Blood tension reduced to 120.

I do not wish it to appear that every case of neurasthenia treated electrically is cured, nor do I suggest that every case of neurasthenia should receive this form of treatment. A large number of cases treated by rest, fresh air, drugs, and other methods, recover. But the cases I have quoted had been treated by the usual methods by the practitioners who referred them to me. They have been obstinate, obdurate—conditions not amenable to the usual remedies. Neurasthenia is a condition frequently seen by every general practitioner, and the anxiety this class of case gives him appears out of all proportion to the seriousness of the disease. I think it well to remember that when all other methods fail there is still a possibility of effecting a cure.

*A paper read before the Bradford Medico-Chirurgical Society, January 17th, 1911.

It will naturally be asked, How do the electrical currents act physiologically so as to cause the improvement as seen in this class of case? Psychical effects may be produced at times by these methods, as may happen in every other form of treatment. But improvement and cure must in a series of cases be due, as in other methods, to powerful therapeutical effects.

In cases in which the blood pressure is high, as I have already mentioned, the effect of reduction of arterial tension may in itself produce the result. In the use of electrical machines there is always a large amount of ozone generated, and it is not impossible that the inhalation of this gas for half an hour at a time may have some power of improving the patient's condition.

D'Arsonval and others have demonstrated increased tissue changes, more rapid reduction of the oxyhaemoglobin in the blood and increased elimination of waste products in the urine. Not only the sympathetic nerves controlling the vasomotor system, but also those controlling the secretory, the thermogenic, and the peristaltic functions, are stimulated. There is a profound action on the protoplasm of cells everywhere, increasing their chemical changes. Usually an increased amount of urea is excreted, attended by a disappearance of uric acid showing the oxidation of nitrogenous material. It is said that the output of CO_2 is sometimes increased from 17 to 37 litres an hour, and that there may be an increase in heat production from 79 to 127 calories an hour.

SIMULATED DISEASE OCCURRING IN PERSONS OF HYSTERICAL OR NEUROTIC TEMPERAMENT.

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The very interesting case of "dermatitis artefacta" reported by Dr. Adamson in the Journal of July 2nd, 1910, recalls to my memory some cases occurring in a considerably long practice which have, I think, a practical bearing on the perplexing difficulties frequently experienced by most medical men in the treatment of certain anomalous cases, which from peculiar family or other circumstances, where the patient or relatives have reasons for simulating indisposition, and from motives of shame or false delicacy wish to conceal the tricks practised, thereby involving the practitioner inexperienced in such matters in much trouble, fearing to give offence to relatives, therefore hesitating to express an opinion as to the fraud or unworthy motive on the part of the patient. It requires considerable moral courage on the part of the medical man to face the difficulty, and it is always necessary to guard oneself at every point to avoid hinting at a suspicion which may prove unfounded. A mistake would almost certainly involve the loss of the patient, and possibly ruin the prospects of a young practitioner. Two of the following cases (Nos. II and III) will illustrate the difficulty; but having once clearly and satisfactorily to oneself, from irrefutable evidence, proved the nature of the case, no hesitation should be felt as to the duty of prompt and decisive action. The natural reluctance to say anything which may cause unpleasant feelings between members of a family, or a rupture of the proper relations which should exist between a medical man and his patients, may well cause hesitation in forcing home his suspicions as to fraud or other unworthy motive; but in this as well as all other professional relations, the trite maxim, "Honesty is the best policy," should guide the members of our noble profession, and will in the end bring most credit, as well as a clear conscience in the faithful performance of duty. I trust the report of the following cases may be helpful to my younger and possibly less experienced professional brethren, and act as a guide to them in dealing with cases involving delicacy and accuracy in diagnosis.

Case I.—The first case occurred in my very early practice more than fifty years since, and at this distance of time exact details are wanting, but the main facts still remain impressed forcibly on my mind. An unmarried woman, aged 30 years, of healthy family, after an easy extraction of a lower molar tooth complained of stiffness of the jaw and inability to masticate properly and swallow any solid food. The stiffness steadily increased, efforts to force the jaw open by wedges absolutely failing. Being of a neurotic and anaemic temperament, tonics, iron, nux vomica, etc., were freely administered with aperients, mild electrical shocks were frequently given, without effect. No solid food was taken, but she freely partook of fluid nourishment. In order to discover any impediment to opening the mouth I placed her fully under chloroform, and thus established the absence of ossific or other mischief about the joint, but as she was emerging from anaesthesia, a series of hystero-epileptic attacks occurred, lasting for two hours, effectually preventing my repeating the experiment.

The next phase of the complaint presented itself in the form of pseudo-laryngitis, apparently originating in the form of an ordinary cold, resulting in loss of voice, with occasional spasmodic breathing, the patient generally speaking in a low voice or whisper. This continued for many years, in fact, for the twenty-five years during which I had the opportunity of knowing her personally. She never, I believe, thoroughly recovered her voice.

The next development was simulated peritonitis with obstinate constipation, easily diagnosed as another form of the hysterical nature of the case. It was followed by retention of urine, requiring the use of the catheter three times daily. On leaving the village to reside at a distance of three miles, I explained that I could not possibly give the necessary attention, and that I would teach her mother to use the catheter. She shortly passed urine voluntarily, and no further trouble of that kind occurred, conclusively proving the nature of the case. The next manifestation was an attack of apparent apoplexy. I was hastily summoned to her early one morning, and found her surrounded by weeping relatives, who said she had an apoplectic fit. She lay passive, her eyes partially open, pupils somewhat dilated, breathing normal, no stertor, no power to swallow fluids when placed in her mouth. The parents had found her thus early in the morning, and could not account for the attack, as she had been as usual during the previous day, and went to bed well. Reflex movements of the legs were totally absent, tickling the soles of the feet eliciting no response. (This was the more forcibly impressed upon me as I went from her house to see a young woman actually dying of apoplexy in whom the reflex was very marked.)

My previous experience of the case led me to take a very optimistic view, and in a very decided and loud tone I told the parents, who at the time thought me very unkind, that they need not be troubled, as I felt sure she would quite recover within twenty-four hours. I have no doubt she heard me, and was influenced by my very decided manner and opinion. Next morning all the symptoms had disappeared, and she was soon as well as usual. I am not aware that any serious manifestation of hysteria ever occurred afterwards. This case was extremely difficult to explain, no adequate motive existing, and nothing material could be gained by imposition except the incident of retention of urine, which is no doubt often due to a perversion of the moral faculties in hysterical young women, and ceases when unable to get a catheter passed. The parents were of the labouring class, and not likely to encourage deception. The uterine functions were normally performed.

Case II.—A young gentleman, aged 16, was brought to me complaining of gastric trouble, with pain attributed to liver disease. It was stated that an uncle or grandfather had suffered from cancer of the liver, but of this there was no definite evidence. He was the son of a farmer in good position and easy circumstances. He had refused for some time to take food and eat as the other members of the family, yet did not lose flesh or show any appreciable signs of disease. He was ordered milk diet, but declared he could not take it. His home being at a large dairy farm, milk was easily obtained, and, failing emaciation or other signs of disease, I had no doubt that he secretly got access to the dairy, but I could not prove it. Home treatment being useless for obvious reasons, I suggested his returning to school in Bristol under my care, and judicious surveillance. Convinced that he was only pretending not to be able to take food, I took the mistress of the school into my confidence, telling her my suspicions. I ordered

him a plentiful supply (3 pints) of new milk with Liebig's extract of meat in sufficient quantity to disguise the milk. This he took for a considerable time, but no meat or other diet. I also gave him peppermint water to make him think he was taking medicine. After three or four weeks he got tired of the disguised milk, and I told him that as soon as he would take the ordinary food he should give it up gradually in proportion as he took meat. This was gradually done, and he soon regained the ordinary habits of living and got rid of his foolish idea of liver disease, and remained quite well.

CASE III.—A sister of the last case, aged about 13 years. A healthy looking girl. I was consulted about her for a supposed disease of the kidney. The friend accompanying her brought me some urine heavily laden with a yellowish precipitate resembling lithates, which was partially soluble in nitric acid, with slight effervescence. From the first I strongly suspected fraud, but as she had been under the care of another practitioner I exercised caution; but in a short time I felt sure she was trying to deceive me. Having gained the confidence of her governess, I told her my suspicions, instructing her to send me by post two specimens of urine—one passed under her supervision and kept by her, the other passed by the girl and left under her own care. I instructed the governess not to tell the mother of my suspicions. Then the fraud became clear. I received the two specimens. No. 1 perfectly normal; No. 2 "treated" by the girl herself, laden with deposit. I then requested the mother to bring the girl herself, with a specimen of the urine passed and dealt with by the girl herself, which presented the same appearance as that referred to as No. 2. Having made an excuse for sending the girl out of the room, I told the mother what I suspected. Of course she was very much annoyed, but I reasoned with her, and showed her the importance from a moral point of view, and requested to be left alone with the girl, when I kindly but forcibly challenged her as to fraud. At first she denied, but I persisted, and telling her if she told me the truth she should not be punished, and pointing out the evil of her conduct, and convincing her that I knew the trick, she confessed that she was in the habit of scraping the wall of her room, and putting the powder in the urine. Nothing but full determination on my part would have solved the mystery. The motives influencing the brother and sister are very difficult to explain or understand, there being apparently nothing to be gained by their conduct, unless a morbid desire to create or excite sympathy, with a perverted moral sense, be accounted sufficient explanation for such extraordinary conduct.

CASE IV.—The next case is evidently one of decided imposition for the purpose of gaining sympathy and extorting charity, and imposed for a long time on several persons who visited the woman. A delicate-looking woman, subject to a chronic cough, commenced spitting a coloured fluid, representing that she coughed it up. For a time I was deceived, but fortunately I detected some fine filaments of a pink appearance, and on careful examination these were found to be small bits of pink cotton, cut up very finely, which had been chewed, and the coloured saliva was then expectorated as blood!

CASE V.—Some years since, when surgeon to the Children's Hospital in this city, a practitioner told me of a curious case, and said he would like me to see it in consultation, and it was partially arranged, but not carried out. He told me the child, aged about 12 years, was unable to walk or stand. From his description I suggested it was a case of hysteria. I did not then see the child, but understood that her mother had taken her to see a "specialist" in London (unfortunately, I believe, without any letter of explanation from her medical attendant), who, doubtless guided only by the statements of the mother, probably not quite accurate, gave the opinion that she was suffering from some spinal affection, and ordered perfect rest in a special apparatus, to prevent motion. After some months, as no benefit was derived, I was asked to take the child into the hospital, and did so. On the day after admission I spoke to the child, and taking her little hands in mine, gently raised her into a sitting position, although she positively asserted that she could not sit up. I then got her round, still sitting, and taking down the side of the cot, got her to let her legs dangle for a few minutes. Next day I got her to stand on the floor, still holding her, and the following day got her holding the rails of the cot (one on either side) to walk a few paces. The next day she made further progress, and on the fourth day she walked, assisted by the nurse and myself, across the ward; on the fifth day she walked a short distance alone, and the following week she was discharged quite well.

I presume it has frequently fallen to the lot of practitioners to meet with cases of strong robust men, in whom not a shadow of pretence could be traced, who after long confinement to bed, have felt quite unable to stand. One such occurs to my mind. A strong healthy farmer, energetic and active, was suffering from a painful attack of gouty lumbago, the inflammation extending to the sacro-iliac synchondroses. The pain was so severe that for a fortnight movement in bed was intolerable, even to the extent of raising the arms to the head. At the end of three weeks he could sit out of bed, and I soon endeavoured to get him to stand. At first he declared this impossible, but, seated by the side of an old-fashioned four-poster bedstead, I got him to grasp one of the posts, and then raising his other hand grasping it a little higher, and gradually progressing each hand higher than the other, at last got him into the erect position, at which he was greatly surprised. I then suggested he might, with assistance from his wife and myself, walk a few steps. This he at first ridiculed, but, nothing daunted, I encouraged him to walk across the room. This being accomplished, he walked back leaning on my arm and using a walking-stick. I shall never forget his surprise; at first he thought I was cruel to suggest his making the effort. There could not possibly be any motive in his reluctance, but evidently his will power was so seriously deteriorated by long inaction that nothing but a stronger will than his own could have urged him to make the effort. The late Sir Benjamin Brodie was peculiarly successful in inducing by moral suasion and determined will young hysterical persons to make a successful effort to leave the wall against which he or she was placed and walk to him, thus overcoming the weak nerve power by a stronger influence. Mental impressions have much to do with recovery after illness, and it is frequently more difficult to induce a patient to get out of bed after an attack of fever or other debilitating illness than to persuade him to go to bed at the commencement. The treatment of some forms of chronic uterine disease is particularly difficult on account of the tendency to yield to mental lassitude and ennui. Of course, displacement and actual disease must be taken fully into consideration.

EUCALYPTUS OIL POISONING.

BY

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CASES of poisoning by oil of eucalyptus are so infrequent that any individual experience seems worthy of record. The case in question is as follows:

A boy of 6, who had occasionally been in the habit of getting a drop or two of eucalyptus oil on sugar, was given by mistake a teaspoonful of the same. This was about 6 o'clock one evening. About 8 he had his usual light supper, and within two hours thereafter abdominal pain and severe vomiting set in. The vomiting continued without cessation of any length and diarrhœa soon became marked. By 11 o'clock the boy became drowsy, and when he was seen about this time he was semi-comatose. He was pale and collapsed, with a small but not very quick pulse. The muscles generally were flaccid. The pupils were medium in size and equal. The conjunctival reflex was not quite abolished. The tendon reflexes were present and were not exaggerated. There was no cough and the breathing was shallow. He could be roused by very vigorous slapping of the face, but each time he looked dazed. Every time he was wakened up the sickness and vomiting set in. The vomited matter, which consisted of mucus and watery material, had a strong smell of eucalyptus oil. After two or three hours of external stimulation very much along the lines usually adopted for opium poisoning, the heavy comatose condition appeared to pass off, and the child was allowed to sleep. He slept well and next morning, beyond being a little tired, was quite himself again. The breath had a smell of eucalyptus oil for three days. There was never any irritation of the urinary tract. In brief, the poison showed itself by gastro-intestinal irritation and cerebral paresis.

Eucalyptus oil, as used within its usual dose limits of ½ to 3 minims, seems never to give rise to any toxic symptoms, but a remedy such as this, which has almost become a household stand-by for catarrh and the like, has, in not a few cases, been taken by mistake in larger doses, and in some cases with poisonous effect. The number of such cases is as yet but small (in fact scarcely over a dozen) and their record is naturally fragmentary, as all notes of poisoning are apt to be when the necessity of therapeutic measures must perforce prevent detailed study of the resulting clinical phenomena. In these cases of eucalyptus poisoning the symptoms have varied greatly according to the amount of oil taken, and apparently also according to the idiosyncrasies of the patient. Incidentally it may be mentioned that Davies[13] knew a patient who fainted even with the smell of it.

In general, toxic symptoms have been noted after doses of 1 drachm or more, but H. S. Taylor[11] speaks of a patient who felt a little giddiness and confusion after ½ drachm. Most of the cases, however, developed marked toxic symptoms after doses of 1 drachm or more, as in those of Taylor,[11] Benham,[12] the two of Atkinson,[18] a case of Allan's,[20] one case of Kirkness,[19] and the above case. In other cases the dose of eucalyptus oil taken was 2 drachms, as in that of Orr,[16] 3 drachms or even 6 drachms, as in the cases of Benjamin[14] and Myott.[15]

With such different dosage the time of onset of toxic symptoms has naturally varied greatly—from ten minutes in one case to one or two hours in another. In like manner the kind of symptoms and the order of their development have shown differences. Vomiting was generally the first sign—in the case reported by Kunkel[9] it was the only one—and it was frequently followed by abdominal pain and diarrhoea. In most of the cases, whether preceded by gastro-intestinal irritation or not, unconsciousness, varying in degree from mere drowsiness to coma, supervened.

In some the first symptom noticed was a giddiness, as in the cases of Kirkness,[19] Sheaf,[3] and Taylor.[11] In all but the slightest cases further effects manifested themselves in pallor, quick pulse, and general collapse, as well as frequently respiratory disturbance. No after-effects were noted beyond the temporary odour of the breath.

In most recovery with or without medical aid was quick. Generally the early vomiting removed a large amount of the poison, and in the cases where only cerebral symptoms were present the use of an emetic led to a speedy recovery. Hence an emetic, if required, and afterwards stimulant treatment, seemed in almost all the cases to give the necessary relief. The duration of the toxic symptoms in the cases recovering varied from an hour or two on an average up to ten hours in a case recorded by Benjamin,[14] where a boy ill with remittent fever had got by mistake 6 drachms.

Nevinny[6] in 1898 mentioned that a fatal result had not yet been observed, but since then several have been put on record. In one reported by Lewin,[5] a boy of 10, after taking 15 grams, suffered from vomiting, pallor of the lips, rapid weak pulse, sighing respiration, and air hunger, and died in fifteen minutes. At the *post-mortem* examination, blood was found in the pleural cavity. In a case of Myott's,[15] a man of 34, after taking 4 drachms became soon dazed and later unconscious. The pulse became quick and the breathing laboured. The physical signs pointed to congestion throughout both lungs. He rallied a little, but died within forty hours after taking the oil. The *post-mortem* examination showed *inter alia* reddening of the trachea and bronchi. Neale[4] also reports a fatal case.

The explanation of these toxic cases has not so far been satisfactory. Schulz[1] says that pure eucalyptus oil is very slightly active, and that 10 grams produces no effect, while Cuthbert Hall[10] considers that eucalyptol—the chief constituent—has probably very little toxic result. Manquat[8] quotes the experiences of Bouveret and Peschade with the subcutaneous injection of eucalyptol in liquid vaseline, where the patients sometimes felt a heat in the abdomen, and at other times showed symptoms of cerebral phenomena of a more or less uncomfortable nature.

Siegen, as Manquat mentions, noted with a dose of 3½ grams headache and mental prostration. The other phenomena are like those produced by turpentine—coma, weakness of reflexes and of the respiration, lowering of the blood pressure and temperature, and in fatal dose respiratory paralysis. Kunkel,[9] in discussing his case, considers it may have been caused by another kind of eucalyptus oil, or else that it might be due to an adulteration.

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THE CURATIVE EFFECT OF SALVARSAN ("606") IN CASES OF FRAMBOESIA.

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THE following experiments were carried out at the St. Augustine Yaws Hospital, Trinidad, from January 4th onwards. On that day Dr. Rost, the surgeon of the German cruiser *Freya*, who had some tubes of "606" which had been given to him at Kiel, at my request kindly injected five cases of yaws, three adults and two children. Dr. Rost used 0.6 gram (9 grains) in an emulsion with 5 to 6 c.cm. of sterilized olive oil for adults. The injection was made deeply into the muscle of the buttock. In twenty-four hours a marked improvement was noticeable, the yaws tubercles drying up from the periphery, so that whitish circles appeared to be surrounding them.

The improvement continued, and on January 8th I decided to try an experiment. I had read that in the case of an injected syphilitic mother and suckling the baby was cured by suckling the mother; and I was also aware of Professor Ehrlich's view that "606" created an antibody by rapidly destroying spirochaetes. I therefore put a cantharides blister on two of the cases being cured by the "606" treatment, and injected the serum from the blister into several cases of yaws, the adult dose being 16 c.cm. To my astonishment, the serum acted as rapidly as "606." In some cases improvement was noticed in sixteen hours after injection. On January 11th, at my request, Dr. Rost injected thirteen more cases of yaws with "606," and the same rapid improvement was noticeable—in some cases as early as sixteen hours after. I applied fly blisters to some of these cases and used the serum for more experiments. In every case injected with serum I got a rapid improvement.

I ought to inject the serum cases every seven or ten days; but I am leaving them alone to see how long the improvement after a single dose of serum will last.

On January 17th the Yaws Hospital was visited by the Acting Surgeon-General, Dr. J. W. Eakin, Dr. Rost, and two of my *confrères*, who saw all the cases under treatment both with "606" and serum, and who also saw the detailed account in my book.

I believe that this is the first instance known of a drug producing an antitoxic serum with curative properties, and the effect, in a boy, of injecting 2 drachms and 20 minims of a serum that had not been hyper-immunized, was very astonishing.

But a greater astonishment was to come. I put a cantharides blister on two cases that were being cured by the serum from a "606" case, and in both an improvement was noticeable in twenty-four hours. Being boys, each received 8 c.cm. of serum. Whether the effect is due to the drug or to an antitoxin, the dilution is very great in what I call the secondary serum cases.

It occurred to me that the results I obtained with serum would be explained if the failure of a cure by Nature was due to the absence of complement in the blood of yaws patients. I argued that it was possible that the antibody

required to be united with complement in order to be an antidote, and that the complement was "fixed" by the toxin. If so, all that was required was to supply complement. I performed three experiments:

1. I put a fly blister on some healthy persons, and injected normal human serum into yaws cases. No result followed.

2. I heated the serum from cases that were being cured after "606" injections, and the serum, *even after boiling*, was efficacious.

3. I put blisters on three cases of yaws, and used the patients' own serum for their injection. No result.

I have therefore abandoned the provisional hypothesis of fixation of the complement by the toxin.

I also performed the following control experiments: I injected sterilized water with tincture of cantharides, and satisfied myself that the presence of cantharides in the serum has no effect whatever.

I injected four cases with cacodylate of soda for comparison, and I see nothing to compare with the experiments with "606" and the serum.

A further experiment with normal human serum obtained by a blister was negative.

It is my intention to inject a goat with "606," and use the goat's milk for young children with yaws. I will also blister cases that have been cured of yaws under ordinary treatment and experiment with their serum. If it be possible to cultivate spirochaetes, I suggest that spirochaetes be injected into a horse; that this be followed by "606" injections, and that experiments be made with the serum in cases of syphilis.

When the experiments were carried on, no other treatment of any kind was used; even a bath was not permitted. No complications, local or general, occurred. I believe that the dose of "606" for yaws can be safely increased, as the reaction was very slight, and in some cases absent. Cases will require a second injection. The pain after the injection of the emulsion lasts for about six hours, but is not very great. Dr. Rost intends to publish the cases injected by him with "606." We all owe him a debt of gratitude for so willingly using his "606" tubes in yaws cases. The blisters were applied on the fourth day after injection with "606," or with the serum of a "606" case.

In the light of marked effects in the secondary serum cases we may have to change the hypothesis of the formation of an antibody by the injections. The curative substance seems to have the power of increasing itself. Is it a ferment?

A REPORT ON THREE CASES TREATED WITH EHRLICH'S SPECIFIC FOR SYPHILIS.

BY

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THROUGH the kindness of Mr. J. E. R. McDonagh of the London Lock Hospital, who spared me a few tubes of "606," I have been able to carry out Ehrlich's treatment in three selected cases of syphilis. I had the good fortune to see Mr. McDonagh treat some patients in London, and I have endeavoured to treat the cases after his method. The doses were received in the form of a yellow powder hermetically sealed in glass ampullae, the dose ranging from 0.3 to 0.9 gram. One end of the glass ampulla is broken off, and the contents turned out into a glass mortar which has been sterilized. The powder is dissolved first of all in as small a quantity of ethyl alcohol as possible. To this is added about 10 c.cm. of very hot water, and the fluids stirred vigorously until every trace has been dissolved; then a small quantity of solution of sodium hydrate (40 grams to the litre) is added, well mixed, and three drops of a ½ per cent. alcoholic solution of phenolphthalein added, and titrated with normal acetic acid until the red colour has completely disappeared. Finally, a few drops of normal sodium hydrate are added until a faint rose tint comes back to remain, so that the solution is just alkaline. The solution is now ready for injection. A fairly large syringe capable of holding 12 c.cm. and fitted with a long needle is used. It is necessary to have a needle with a large bore, as sometimes the fluid is apt to become viscid, and would certainly block an ordinary needle.

The urine must be tested in every case before injection and daily afterwards. The strictest antiseptic precautions should be taken and the needle boiled in salad oil to prevent the blunting which occurs with water.

The scapular region is a suitable site for injection. The skin over the scapular muscles is well washed with soap and water, nothing else being used. The contents of the mortar are drawn into the syringe, and the needle plunged deeply into the muscles of the scapula on the side selected. The fluid is then slowly but firmly driven into the muscles. The needle is then slowly withdrawn, and a piece of aseptic gauze held by rubber plaster put over the puncture. The patient should be kept in bed for five or six days.

CASE I.

Colour-Sergeant G., aged 35 years, acquired syphilis eleven years ago. A very short time afterwards he had seventy-two days' treatment with hyd. ☉ cret. in hospital. He did not have any further treatment, and kept fit until his tonsils and palate became ulcerated six weeks ago.

On admission to hospital he was found to be suffering from a large perforation of the soft palate and extensive ulceration of the tonsils and posterior pharynx. The uvula had already ulcerated away.

Five days afterwards 0.5 gram of "606" was injected into the muscles of the right scapular region. He did not have any rise of temperature, and felt no ill effects, with the exception of some slight soreness at the sight of injection.

Two days afterwards there was a distinct improvement in the appearance of the ulcers. The sloughs had disappeared, and the perforation looked smaller. At the end of the first week the tonsils and posterior pharynx had healed completely and the perforation was about one-third the original size. He was weighed, and found to have gained 5 lb. About this time a small amount of lymphoid tissue was noticed at the site of the uvula.

A fortnight afterwards the hole in the palate had almost closed, and the patient's general condition was greatly improved.

Four weeks afterwards the perforation had closed completely, and the lymphoid tissue at the site of the uvula had grown into a fairly large process. He had regained his normal voice, and on being weighed was found to have gained 16 lb.

CASE II.

Lance-Corporal R., aged 32 years, acquired syphilis five years ago. He did not receive any mercurial treatment internally, as the sore was diagnosed to be soft. He kept fit until May, 1910, when he was admitted to hospital suffering from severe ulceration of the upper gums, tonsils, and posterior pharynx. He had also disease of the nasal bone on the left side and well-marked tibial pains at night. He was given several courses of inunction periodically, but his condition did not improve.

He was sent to me as a selected case for "606" treatment. I found that he was suffering from the above-mentioned symptoms, and that quite recently he had lost five upper teeth on the right side. A few days afterwards 0.5 gram was injected into the muscles of the right scapular region. He had no pain afterwards, but had a rise of temperature for three days, the highest being 101°.

Two days afterwards the tibial pains ceased and the condition of the gums and throat was markedly improved. At the end of the first week the throat had completely healed and the gums were almost well, the teeth being quite firm. His weight had increased 2½ lb.

A fortnight afterwards the gums and throat were quite healed; a piece of necrosed bone came away from the left nostril, and the discharge, which was profuse before, was greatly diminished.

On the eighteenth day he had gained over 1 st. in weight and looked quite fit. He is now quite free from any lesions.

CASE III.

Private L., aged 28 years, acquired syphilis in October, 1910. He was admitted to hospital at Poona soon afterwards and developed a profuse papular rash over the face, neck, trunk, and upper and lower limbs. He was given three courses of ung. hydrarg., and was transferred here for "606" treatment, as his condition was not improving. On admission, he had the rash over the face, trunk, and limbs, some ulceration of both tonsils, and well-marked enlargement of the cervical and inguinal glands.

He was injected in the right scapular muscles with 0.5 gram of "606." He suffered slight pain in the muscles for about two hours afterwards. Two days afterwards the enlarged glands had completely disappeared, and the rash was fading rapidly from the face. The condition of the throat showed marked improvement. He had a rise of temperature for three days. At the end of a week the rash had completely disappeared from the face, the throat was quite well, and the rash was fading from the trunk and limbs. He had gained 1½ lb. in weight. Eighteen days afterwards, with the exception of a few stains on the skin the result of the rash, there was nothing to show that he had ever had syphilis. He had gained 8½ lb. in weight.

The cases described are the first to be treated in India with Ehrlich's wonderful specific.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF PEENASH.

HAVING read the report of "A Case of Peenash" in the BRITISH MEDICAL JOURNAL of November 5th, 1910, p. 1441, I wish to draw attention to a very well known and very efficacious method of treatment, to which no reference was made in the article.

In Scheube's *Diseases of Warm Climates* (edition 1903), pp. 446–447, the ravages of the larvae of *Lucilia macellaria* in the human subject are described so clearly that there is no need for further detail. Suffice it to say that in the Northern Argentine, in Paraguay, and in Brazil, such cases as that described are of very frequent occurrence. All the cases that I have seen, however, have been in persons with syphilitic or leprous lesions of the nose, the odour of which had attracted the fly. I have had many cases, however, of larvae of *Lucilia macellaria* in the ears of perfectly healthy persons with no history of any previous lesion in the ear. Anyone who has seen a bad case of myiasis can understand the ghastliness of the punishment visited upon King Herod (Acts xii, 23), whose bad antecedents warrant one in believing that he was a syphilitic.

A passing reference may be allowed to the *Dermatobia noxialis*, a fly belonging to these Central South American countries. It lays its eggs in the skin of various domestic animals and in man. The larvae that result are single, and each one is contained in a little swelling or boil, which has a small opening in the centre, through which the larva projects its little head. Recently I had a little German child with six of these *Dermatobia* boils or uras (as they are called here and in Brazil) in his scalp. A girl with a syphilitic ulcer of the leg had the skin of the margin of the ulcer honeycombed with "ura" larvae.

The treatment for larvae of *Lucilia macellaria*, and probably for similar larvae attacking the nose and adjoining parts, was given in the *Journal of Tropical Medicine* (I think) towards the end of 1902 by a colleague resident in the Argentine. The treatment is well known to the more intelligent inhabitants of these republics, yet I have not seen it mentioned in any of the books on tropical medicine.

It consists in insufflations of finely powdered calomel into the nose or ear attacked by the larvae. The patient is made to lie down, and the powder blown into the affected cavity. One drachm of powdered calomel is the quantity I generally use. I send the patient home, and bid him come the following day. If the dead larvae have not all dropped out, I wash them out with a nasal douche of simple boric lotion. Where the nasal cavity and the ears are attacked the treatment is infallible. Where the maggots have already eaten their way into the accessory sinuses, of course the treatment becomes more difficult.

The textbooks mention chloroform, oil of turpentine, etc., as useful, and to these may be added kerosene and various tar preparations kept on the "estancias" for curing "maggots" in cattle, and frequently used for the same purpose on the human subject. The advantage of the calomel treatment is that it is absolutely painless, is cleanly, and is, when properly applied, very efficacious. The only disadvantage it may have is from the purgative effect of any small quantity that may pass into the stomach. One leper, whose nose was literally moving—heaving up and down with the movements of the maggots—was treated by this method, sent home, and told to come again. He did not appear for three days. Then he told me that all the maggots had dropped out dead the same night and the following day, but that he had got such severe diarrhoea that he could not come to see me sooner. Probably the calomel did him good; at any rate, the leprous condition has remained stationary during the year that has intervened, the swelling of the face and hands having markedly diminished.

In cases of infection by *Dermatobia noxialis* also I use the calomel powder. In the case described above of the numerous larvae in the margin of the leg ulcer, I simply dusted on the calomel powder, spread some dry lint over it, and put on a bandage. The following day the larvae were all dead on the lint.

Before I adopted the calomel treatment, and when I used to try by repeated injections or irrigations of other drugs to kill and dislodge the larvae from the nose, the horrible stench of the affected part invariably made me ill. By the calomel treatment hours of most disagreeable work may be avoided, the treatment finished in five minutes, and the patient sent home with the assurance that he will be all right on the morrow.

J. W. LINDSAY, M.B., Ch.B.Aberd.

Belén, Paraguay.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

STRATTON UNION WORKHOUSE.

CASE OF SEVERE PUERPERAL FEVER CURED BY ANTI-STREPTOCOCCUS SERUM.

(Reported by DURIE A. CHAMBERLAIN, Deputy Medical Officer.)

THE following case seems to me to be of interest owing to the fact that the severe symptoms of puerperal fever abated almost immediately after the injections of anti-streptococcus serum (B. W. and Co.'s puerperal fever serum). The patient, a single woman aged 20, was admitted on July 25th, 1910, for her confinement. Two years previously she had been confined of her first child. For more than two years she had suffered from a vaginal discharge, gonorrhoeal in character, which had resisted treatment. She was still suffering from it when admitted for her second confinement. On September 25th she complained of labour pains, and I made a vaginal examination, but found that labour had not properly commenced. On September 28th she had a quick labour, and a child, which presented in the vertex position, was born. Only the nurse was in attendance, and no vaginal examinations were made. The placenta and membranes were delivered normally.

First Abnormal Symptoms.

The bowels were open on the third day after castor-oil. The temperature was normal until October 2nd, when it rose to 99.4°. On the following day it was 101.6° in the morning and 101.8° in the evening. She did not complain of pain or other symptoms, and there were no physical signs, except a raised pulse, until the early morning of October 4th, when, after passing a restless night, she had a rigor, and the temperature rose to 105.4°. I saw her later in the morning, when I found her extremely ill and complaining of intense headache. There was some abdominal distension, and the pulse was 124.

Diagnosis and Treatment.

I diagnosed puerperal fever, and wired for some antistreptococcus serum (B. W. and Co.'s puerperal fever serum). In the evening I saw her again; the temperature was now 106.4°, and the pulse 132. She still complained of headache, but there was no pain or vomiting; the abdominal distension had increased, and there was some tenderness over the spleen. I injected 25 c.cm. of the serum into the buttock.

Progress.

At 4 a.m. on the next morning the temperature dropped to 102.4° F., and the patient became much less distressed. During the day the temperature kept much the same, but on the following morning it again rose to 105.2° F., with a return of the previous signs and symptoms. I again injected 25 c.cm. of the serum, and in twelve hours' time the temperature dropped to 102° F., falling again next day to 100.5° F. in the morning and 100.8° F. in the evening.

Two days later the temperature was normal, and remained so. The pulse throughout the period of pyrexia was hurried in proportion to the temperature, and at the end became weak and thready. There was a bloody red discharge from the vagina, but it was not offensive. There was no diarrhoea. The remaining treatment consisted of maintaining the strength and giving every four hours douches of mercury perchloride 1 in 2,000.

RESULT.

She made an uninterrupted convalescence and got up from bed three weeks after the temperature became normal. In my opinion the drop of the temperature and the abatement of the symptoms after each injection proves the efficacy of the serum in this case.

I regret that, owing to the difficulties of distance, no examination of the blood was made.

Reports of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Wednesday, February 1st, 1911.

Dr. BYROM BRAMWELL, President, in the Chair.

Epidemic Poliomyelitis.

IN a paper on this subject Dr. D. W. CURRIE and Dr. EDWIN BRAMWELL pointed out that in the last decade there had been a series of epidemics of poliomyelitis, and described the leading features of a small epidemic which they had observed last autumn. This had occurred in an isolated group of five houses in a country district, and, out of 12 children living in these houses, 5 had been attacked; 2 were typically affected, 2 showed transient cranial-nerve paralysis only, while the fifth, though showing no motor nerve paralysis, had symptoms of general disturbance which, from its association with the others, allowed it to be classed as a case of this disease. The disease was confined to two out of the five families, and investigation made it certain that it had been carried from one to the other by one of the mothers. The source of the original infection could not be discovered. The chronological sequence of the cases allowed the incubation period in this small epidemic to be fixed at four days. Inquiries made over a wide area in England and Scotland showed that during the last year cases of poliomyelitis had been more numerous than usual, and evidence had been obtained of local epidemics in Newcastle, Carlisle, Manchester, Nottingham, and Melton Mowbray. It was possible that there was some connexion between acute anterior poliomyelitis and epidemic cerebro-spinal meningitis, for epidemics of the one were apt to follow those of the other, as had happened in New York.

Dr. MELVILLE DUNLOP said the existence lately of poliomyelitis in epidemic form was borne out by his experience both in hospital and private practice. The epidemic had been not only widespread, but also of unusually severe character. It was distinguished especially by severe and prolonged premonitory symptoms. In one case the child lay comatose and speechless for ten days; and in others the clinical picture closely resembled that of tuberculous meningitis. Other features had been the later age-incidence of the disease, the widespread nature of the paralyses, including bulbar symptoms in several cases; and in general a more complete degree of recovery than was usual in sporadic cases.

Dr. HARVEY PIRIE insisted on the importance of early diagnosis in epidemic cases, and of isolation to prevent further spread. The frequency of pain among the earlier symptoms showed that the disease began as a meningitis, and at this stage increased pressure of the fluid on lumbar puncture and an increase of the mononuclear cells might be helpful in diagnosis.

Dr. DINGWALL FORDYCE pointed out that in the small epidemic described a peculiar feature had been the greater severity of the disease in the older children. He thought that the incubation period had been fixed within too narrow limits.

Dr. JOHN THOMSON said that the seasonal incidence of epidemic cerebro-spinal meningitis was in winter and early spring, while that of anterior poliomyelitis was in the autumn.

Dr. W. T. RITCHIE asked if the recent outbreak of cerebro-spinal meningitis in Belfast had been followed by an unusual number of cases of poliomyelitis.

Dr. E. BRAMWELL replied.

Medical Examination of Employees.

Dr. H. G. LANGWILL outlined a scheme of medical examination of sea-going employees recently adopted by a federation of British shipowners. Such an examination was especially necessary in the case of seamen, because of the greater hazard of their occupation, of their liability to accident both at work and asleep, and of the inadequate medical treatment at sea for wounds and fractures. In the first place, the employees were divided into long and short voyage seamen. The main points of examination were: Eyesight, hernia, venereal disease, varicose veins, the state of heart and vessels, and the presence of giddiness or fits. As to vision, test types often showed deficiency where at sea the man had acute vision for land or light. He passed slight cases of hernia, on condition of wearing a truss; and in cases of radical cure recommended the man to have a truss in his possession. In valvular heart disease, he passed for a short voyage if the compensation was good. The detection of early aneurysm was of great difficulty.

Professor CAIRD said that there was less liability to strangulation in an old hernia with a wide ring than in one of recent date. He had never seen strangulation in ventral hernia at the site of an old operation wound.

Dr. CHALMERS WATSON alluded to those cases of cardiac strain where early appropriate treatment prevented permanent disability and lifelong compensation at the expense of the employer.

Mr. MILES said they were coming to the time when universal medical examination for all workmen would be in force, and it was possible that in the interests of employers all cases of hernia, with or without a truss, would be rejected.

Dr. MACRAE TAYLOR said that the teeth should not be forgotten in a scheme of medical examination of employees.

Dr. LANGWILL replied.

Cases.

Patients were also shown by Professor CAIRD and Mr. ALEXIS THOMSON.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Friday, January 20th, 1911.

Mr. SETON PRINGLE in the Chair.

Two Unusual Gall-Bladder Cases.

MR. W. S. HAUGHTON read a paper on two unusual gall-bladder cases—(*a*) foreign body, (*b*) typhoid carrier. (*a*) In this case there were attacks of well-marked biliary colic during the two previous years. The intervals between the attacks were marked by severe gastric disturbance and pain. Operation revealed a very small, thickened gall bladder, embedded in a dense mass of adhesions involving liver and stomach. A thick ring of fleshy adhesion made it impossible to remove the gall bladder completely without stomach resection. The gall bladder contained two small calculi, and a bristle half an inch long with a piece of thread tightly rolled round one end. The bristle resembled one from a toothbrush, and it was suggested that it entered the gall bladder by ulceration through the stomach wall. (*b*) In the second case there was no definite history of enteric fever. The patient was a female. Her symptoms for six years previously suggested intermittent attacks of partial intestinal obstruction. A tumour was felt on the right side of the abdomen, tense, smooth, pendulous, and movable in a transverse direction at the level of the umbilicus. Operation revealed a large pear-shaped gall bladder with long pedicle formed by the cystic duct. The walls were over a quarter of an inch thick, and it contained eighteen calculi and a large quantity of white, milky fluid, which was proved to contain a pure culture of typhoid bacilli. The blood of this patient possessed unusually high agglutinating power. The gall bladder was removed. Both patients had made a complete recovery. Dr. CROFTON said that a pure culture of the typhoid bacillus was obtained from the gall bladder. The patient's blood, even when diluted to 1 in 500, agglutinated typhoid bacilli. The patient had no history of having had any typhoid, but the fact that she had an anomalous illness with a high temperature, and had come from Cairo, was very suspicious, Cairo being a hotbed of typhoid fever. There was no history that she had given typhoid to any one. The paper was discussed by the CHAIRMAN, Dr. STOKES, Mr. BLAYNEY, Dr. KIRKPATRICK, Dr. PEARSON, Mr. GUNN, and Mr. STONEY. In reply, Mr. HAUGHTON said he quite agreed that the removal of the unopened gall bladder would have been a safer course than the one he adopted. Mr. Stokes had asked the reason of the difficulty in passing a probe. He thought it was due to the tone of the muscle. He thought that the gall bladder should be removed where there was any definite evidence of change rather than that it should be left there as a future source of

malignancy. With regard to Mr. Gunn's question, he thought that in the vast majority of cases it was inadvisable to close the abdomen without drainage. Mr. Crofton had no doubt whatever that typhoid bacilli could not live in the blood stream or in the tissue fluids of this patient. Those in the gall bladder were in a position that was cut off from the blood stream owing to the thickening and infiltration of the walls, and so antibodies could not soak through. Another point was that it was quite possible, owing to their position of partial protection, that these typhoid bacilli had developed a strain which was more or less resistant. The patient certainly came from a place where typhoid fever was very prevalent. As regards the question of removal of the gall bladder, he thought many of them might be saved by vaccine-therapy, and that if the microbe could be discovered many of the gall bladders would be able to return to their normal condition. It was very difficult to immunize a patient and to destroy the living typhoid bacilli in the typhoid carrier. He only knew of one successful case which had been reported. There was one patient in whom he was able to increase her agglutinative power very much, but she was still excreting typhoid bacilli in her urine.

Congenital Fistulae.

Mr. Boyd Barrett read a paper on congenital fistulae. He confined his remarks to fistulae of the umbilicus (intestinal and urinary), fistulae of the external ear and pre-auricular area, and paracoccygeal fistulae. Conditions necessitating surgical interference were mentioned, and laparotomy suggested in all cases of umbilical fistulae where the possibility of adherence of the ileum to the umbilicus through a Meckel's diverticulum existed. Remarks were made by Mr. Stoney, Mr. Gunn, Mr. Stokes, Mr. Pearson, and the Chairman. Mr. Boyd Barrett, in reply, referred to the two coccygeal cases mentioned by Mr. Stoney which were opened for abscesses, and he considered it quite possible that they were fistulae. He had seen several cases of coccygeal fistulae, but never any deep ones. Mr. Stokes's case with the sinus opening in the middle line of the neck he believed to be extremely rare. They were supposed to be due to the thyro-glossal duct. Mr. Pearson had failed to cure his fistula of the umbilicus by cauterization. He thought this was never successful. It nearly always recurred after treatment by cauterization, which meant that the lips of the duct became adherent, and a cyst was generally formed where the lining membrane was not destroyed. The only result of this treatment was the formation of cysts. The giving of methylene blue would be an aid if the urine was discharged, but if the urachus was closed at the bladder methylene blue would be of no use. He thought where there was a probability of a fistula being connected with the ileum a laparotomy would be justifiable.

ROYAL SOCIETY OF MEDICINE.

Section of Anaesthetics.

Friday, February 3rd, 1911.

Dr. McCardie, President, in the Chair.

Death under Chloroform.

The President reported a case of death under chloroform, due to inspiration of gummatous material. A man aged 43 was to be operated on for ulcer of the scrotum and hernia of testis. The house-surgeon administered chloroform on a Schimmelbusch mask, this anaesthetic being selected on account of the presence of bronchitis. There was slight struggling during induction. When the patient was moved on to the operating table severe cyanosis and embarrassed respiration suddenly occurred, respiration shortly stopping entirely. The pulse was good when the respiratory failure occurred. Restorative measures were of no avail. On *post-mortem* examination a broken-down gumma was found at the bifurcation of the trachea, which had evidently burst during the anaesthesia.

Dr. Barton questioned whether, in view of the existing bronchitis, the case should have been operated on at all.

Dr. Carter Braine asked whether artificial respiration had been performed with the patient lying on his side.

Anaesthesia in Post-pharyngeal Abscess.

Mr. Gill read a short paper on anaesthesia in post-pharyngeal abscess. He described the case of a child of 3 with difficulty in breathing, who was to be operated on for adenoids. Light anaesthesia was induced with chloroform. On opening the mouth a swelling was seen bulging forward from the back of the pharynx, which produced further obstruction the more the mouth was opened. The mass was incised and a large quantity of matter rapidly discharged, filling the mouth and nose. The child, who had become dusky, was suspended head downwards. After the matter had been rapidly swabbed out, the tongue was hooked forward by passing the finger along the dorsum. The patient recovered. Great stress was laid on the importance in this case of the inverted position. Mr. Gill also reported a case in which, during an operation on the chest, there was sudden haemorrhage from the nose and mouth, producing symptoms of suffocation. The patient's head was lowered over the end of the operating table, and when the flow of blood had diminished the anaesthetist drew the base of the tongue forward with his finger, compressing meanwhile the chest with his elbows.

Mr. Bellamy Gardner considered that it would be better to operate on cases of post-pharyngeal abscess without an anaesthetic. The operation was generally trivial.

Reflex Effects from Stimulation of Mucous Membrane during Anaesthesia.

Dr. Blumfeld read a short paper on reflex effects from stimulation of the nasal mucous membrane during anaesthesia. He described a case of heart failure after the injection of adrenalin. The patient, who was to be operated on for deviated septum, was anaesthetized with C.E. In seven minutes he was pronounced to be ready; the colour was good, corneal reflex was present. He was placed in a sitting posture, and, as there was slight coughing, more anaesthetic was administered. Six minims of 1 in 4,000 solution of adrenalin was then injected into the nasal mucous membrane. Immediately there was extreme pallor, dilated pupil, and the usual symptoms of severe cardiac depression. These passed off, and the operation was performed without further trouble, chloroform being administered by Junker's apparatus.

Dr. Flemming had seen faintness caused by adrenalin, but not by weak solutions; he considered 1 in 4,000 too strong.

Dr. Carter Braine recorded a case in which sudden death had followed the injection of adrenalin into the tonsil in the case of a girl who was to undergo tonsillotomy.

Dr. Probyn Williams questioned whether the change to the sitting posture might not have been a factor in the depression produced.

Dr. Silk thought the drug was the chief cause. He had seen faintness produced by plugs of cocaine and eucaine in the nose.

Mr. Bellamy Gardner believed that adrenalin injected into the tissues caused shock, but when it was *applied* only it did not do so. He did not believe in the sitting posture as a causal factor.

Mr. Barwell said he was the operator in the case described by Dr. Blumfeld. The shock did not appear till some time after the sitting posture had been assumed, and he considered that it was due to the adrenalin. He found that adrenalin had a much more depressing effect on anaesthetized than on conscious persons, and for the latter he often used large doses with impunity. He had never seen a case of shock under adrenalin when the anaesthesia was induced by ether.

Dr. Hewitt considered that the low blood pressure under chloroform was an important factor in the circulatory depression produced by adrenalin, and explained why it was that such depression did not occur in etherized or conscious patients.

The President stated that he had also had cases of circulatory depression due to adrenalin. He advised interruption of the administration of the anaesthetic for a time during the injection of adrenalin.

Dr. Harvey Hilliard stated that he had seen cases of cardiac inhibition when plugging the nostrils under anaesthesia, but not when the plugging was performed previous to induction.

Cheyne-Stokes Respiration during Anaesthesia.

Dr. HUGHES presented a short communication on Cheyne-Stokes respiration during anaesthesia. He described the case of a man of 52, who underwent gastrostomy for malignant disease of the larynx after tracheotomy. Chloroform was administered on lint over the tracheotomy opening, and followed by C.E. After about four minutes respiration stopped, the pupil being small, and corneal reflex present. After thirty seconds breathing was resumed. Throughout the operation, which lasted about forty-five minutes, there occurred, about every five to ten minutes, periods of apnoea of thirty to forty seconds, alternating with regular breathing of good volume. There was no straining. After the anaesthesia was stopped the condition gradually passed off.

Dr. BARTON had seen at least half a dozen cases of Cheyne-Stokes breathing under anaesthesia. They were all either under chloroform or C.E.

The PRESIDENT had found 6 cases in his records. They were all but one old men with rigid chests. The one exception was a man of 48, who was operated on for cerebral tumour under chloroform and C.E.

Exhibit.

Mr. COLEMAN showed a new form of stopcock for gas and air administration.

SECTION OF BALNEOLOGY AND CLIMATOLOGY.

AT a meeting held on January 27th, Dr. BUCKLEY (Buxton) read a paper entitled, *Osteo-arthritis and its relation to chronic rheumatism.* He said that osteo-arthritis was generally assumed to be a form of arthritis characterized by bony changes in connexion with the joints. Bony changes occurred in many diverse forms of arthritis, such as pyaemic tuberculosis, gonorrhoeal and gouty arthritis, and in the arthropathies as well as in those conditions to which the name was more definitely applied; but in many cases of so-called osteo-arthritis the stage of bony change was never reached. Bony changes of hypertrophic type were essentially secondary and reparative, and did not characterize any particular disease. The cases in which there was no other symptom than stiffness and creaking of the knee-joints were commonly a chronic synovitis due to wear and tear plus increased vulnerability of the joints from heredity or modified vascular supply such as might be caused by varicose veins, and were then best described as chronic villous arthritis; but slight bony changes might occur in the form of osteophytes arising from the patella. This linked them to certain other forms of osteo-arthritis, in which no specific cause was discoverable, and which had been termed "hypertrophic arthritis." In order to differentiate these two conditions from gouty and other forms of arthritis there was much to be said in favour of the term "chronic articular rheumatism," which in spite of possible confusion with rheumatic fever would more clearly indicate their pathology and treatment, and the name "osteo-arthritis" should be abandoned altogether. Dr. BURT (Buxton) said that when one considered osteo-arthritis in such a condition as Heberden's nodes, it was found that the formation of osteophytes was merely a compensation change. It seemed unreasonable to classify a group of clinical diseases under the term "osteo-arthritis" if this was only a secondary condition. Dr. MOUILLOT (Harrogate) believed that the differential diagnosis of the different forms of arthritis was of great practical importance, as many patients' lives were made miserable by a diagnosis of rheumatoid arthritis on very insufficient evidence, sometimes the only symptom being a creaking of the knees. He also related a few cases showing how one form of arthritic disease was added to one already existing, such as gout, or rheumatic fever, or rheumatoid arthritis. Dr. LEONARD WILLIAMS said that it was probable that the joints were, if not excretory organs, then elaborating organs, enabling some materials to be more easily excreted. From the sex incidence of such diseases as gout and rheumatoid arthritis, it was reasonable to suppose that the organs peculiar to the sexes—the testicle and the ovary—and the internal secretions were primarily responsible for the diseases in question. Dr. ERNEST YOUNG suggested that members should make careful clinical notes of these cases for the next two years. The collective evidence which might thus be obtained would form a far more satisfactory basis for classification than that which existed at the present time. Dr. BUCKLEY, in reply, referred to the difficulty in diagnosis, and considered that rheumatoid arthritis was more frequently met with in young women, and the conditions known as "osteo-arthritis" at the menopause. He welcomed the suggestion that members should make a careful study of a series of cases with a view to a future discussion which might greatly assist in the differentiation of these disorders.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, February 9th, 1911.

Mr. GUSTAVUS HARTRIDGE, Vice-President, in the Chair.

Histo-pathology of Papilloedema.

A PAPER by Mr. LESLIE PATON and Dr. GORDON HOLMES was read by the former on the histo-pathology of papilloedema. It was a preliminary account of their investigations into the pathology of papilloedema. Their work was based on the histological examination of sixty eyes—all from cases in the National Hospital for the Paralysed and Epileptic, Queen Square. The conclusions they formed from these cases were that the so-called "optic neuritis" was a simple congestive oedema of the disc, and was not in any way an inflammatory phenomenon. Inflammation, when it did occur, was slight in amount, limited in its distribution, and secondary in its nature. The haemorrhages that occurred were in the main congestive, but partly due to stretching and rupture of small vessels by the swelling disc. The larger white patches that occurred on or near the disc were due to degeneration of the nerve fibres. This degeneration showed itself first by varicosities appearing on the nerve fibres, which later swelled up into elliptical or globular bodies, known as "cytoid bodies." These might lose their connexion with the nerve fibre from which they developed, and consequently undergo fatty degeneration. The smaller bright-white spots, arranged in fan-shaped fashion between the disc and macula, were due to oedema raising the membrana limitans interna into vesicles. The changes produced as the disc became atrophic were (*a*) occlusion of the smaller vessels by endothelial proliferation and adventitial thickening in the walls of the larger vessels, (*b*) a glial proliferation which varied in intensity with the degree of atrophy, and (*c*) proliferation in the mesoblastic tissues round the blood vessels and without, forming the lamina cribrosa. The writers considered that the hypothesis which best explained all the known facts of tumour papilloedema was that, owing to the rise of intracranial pressure, there was a communicated rise of pressure in the nerve sheath. The portion of the central vein lying in the nerve sheath behaved, in response to this raised pressure, like a cerebral vein, and the blood pressure in it was consequently raised to the same extent. This produced a congestion of all the connexions of the central vein distal from that point. In addition to causing venous congestion, the raised intravaginal tension obstructed the normal drainage of lymph from the disc and nerve and caused a lymph stasis, so that there was both an increased output and a diminished drainage. The tissue tension in the nerve itself was raised, so there was no marked difference between intravenous pressure and tissue pressure until the lamina cribrosa was reached; also the range of action of the lower normal intraocular tension. The paper was illustrated by a number of lantern slides.

Mr. JOHNSON TAYLOR asked whether the authors had had any case early enough to confirm what was clinically found, namely, that the earliest evidence of optic neuritis was in the upper and inner part of the disc. He had under care at present a case which confirmed that view.

Dr. JAMES TAYLOR spoke appreciatively of the extensive nature of the research. It occurred to him that it might lead to a revival of the old method of tapping the optic nerve from the front, with the view of relieving the oedema. If so, that would cause one to view more hopefully cases of extreme papilloedema.

Dr. GORDON HOLMES, in reply to Dr. TAYLOR, said the method mentioned would be feasible only if a fistula were left in the sheath, to allow the cerebro-spinal fluid to drain away.

Mr. Paton replied that the papilloedema nearly always commenced at the upper border first, and later in the lower. But when only the upper border showed oedema there was shrinkage of the tissue. The disc looked normal, but there was evidence of slight oedema commencing at its upper edge.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

Friday, February 3rd, 1911.

Professor Muir, President, in the Chair.

Chronic Subcutaneous Fibrosis.

Professor Stockman read a paper on the clinical symptoms and treatment of chronic subcutaneous fibrosis, which is published at p. 352.

Iodoform in Phthisis.

Dr. Thomas W. Dewar read a paper on the treatment of phthisis by means of the intravenous injection of an ethereal solution of iodoform. After ten years' experience of the treatment, his belief was that in an early uncomplicated case of pulmonary tuberculosis with good veins, three or four months' iodoform treatment, without special diet or rest, would effect a cure. Such a case would present the physical signs of apical consolidation on one side. In more advanced disease, with breaking down in one upper lobe and consolidation in some part of the other lung, iodoform treatment for a year or more, together with modified rest and extra diet, would also succeed. Even in far advanced cases with vomicae improvement occurred. Dr. Dewar had had several men who before receiving injections were unfit for work but who soon resumed it, and had been able to continue it while undergoing treatment. The doses given varied from ¼ grain to 1 grain of iodoform, and were generally administered three times a week. The occurrence of toxic symptoms, increased temperature, or increase of sputum were indications for reduction of the dose. How iodoform in such small doses could counteract the virulent poison of the tubercle bacillus was unknown. Dr. Dewar suggested that it might act germicidally as its own molecule; or from its decomposition in the body nascent free formic aldehyde and nascent free iodine, both powerful antiseptics, might be formed; or it might stimulate phagocytosis, or it might act as a toxin inducing the formation of an antitoxin inimical to the growth of the tubercle bacillus. Dr. Dewar had had no success with tuberculin treatment, and stated reasons for his belief that no success was to be expected. As the results of sanatorium treatment admittedly left much to be desired, he urged that the iodoform treatment should be given a thorough trial. Dr. John Guy said that he had at present under this treatment in the Bridge-of-Weir Sanatorium 35 cases of phthisis, and he showed the records of 12 of these patients who had been under treatment for periods varying from nine to twenty-two weeks. He had failed to see any decided benefit accruing, and some of the cases had become continuously worse while under treatment.

MANCHESTER MEDICAL SOCIETY.

At a meeting held on February 1st, Dr. Emrys Jones, President, in the chair, Mr. L Savatard briefly reported the following cases: *Xeroderma pigmentosum* in a woman aged 42. The condition, which was first noticed three years ago, had gradually progressed, and was not affected by the variations of season. No warty or other growths had as yet arisen. Microscopical examination of a pigmented area showed, in addition to a mass of pigment in the epidermis and cutis, marked disturbance and atrophy of the basal cells. Attention was drawn to the striking similarity there was between this condition and *x*-ray dermatitis with subsequent malignant growths. *Lupus vulgaris* of long standing with (*a*) papilloma; (*b*) epithelioma, or scar tissue. *Cutaneous neuro-fibromatosis*, with a general fibrosis of the peripheral nerves, in a man aged 25 There was no family history of this or any allied condition. According to the patient's statement this was his fourth attack, the first appearing five years ago after an attack of acute rheumatism, and the cutaneous lesions had previously entirely involuted. The lesions were most numerous on the trunk; the larger ones, not exceeding 1.5 cm. in diameter at their base, were hemispherical and sessile with a bluish transparent look. Many of the smaller ones presented a purpuric appearance. A section of a small tumour (made by Dr. Powell White) showed it to be a soft fibroma of the terminal filaments of the cutaneous nerve pushing upwards into the cutis and displacing the sweat and sebaceous glands. Mr. J. W. Smith read a communication on the *Treatment of carcinoma recti.*

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Among the exhibits shown at a pathological meeting held on February 3rd, Dr. Phineas S. Abraham, President, in the chair, were the following:—Dr. J. A. Coutts: (1) Heart from a case of *Malignant endocarditis* in a child aged 5. (2) Heart from a case of *Endocarditis* in an infant of 2 months, (?) fetal. (3) An infantile stomach with *Pyloric stenosis* from a case in which gastro-jejunostomy had been performed; the pylorus only admitted the passage of a bristle. (4) *Extreme fibrosis of lung* in an infant aged 15 months. Dr. Bernstein: (1) *Hypernephroma* (operation specimen). (2) A specimen from a case of *Ulcer of the pylorus with perforation into the liver*, and abscess in liver; excision, healing, death from pneumonia. (3) A specimen from a case of *Obstructive jaundice*, non-malignant; great dilatation of bile and pancreatic ducts. (4) A *Thymus of 833 grains* from a boy aged 14. Mr. L. A. Bidwell: (1) *Primary carcinoma of the liver;* the specimen was removed from a man aged 64; on opening the abdomen the tumour was found to be circumscribed with no evidence of secondary infection; it was excised. The bleeding points were ligatured and the V-shaped wound brought together with catgut sutures which stopped the bleeding; the patient did well for a week, but then developed bronchopneumonia from which he died. (2) A specimen from a case of *Carcinoma of the transverse colon* fungating through the umbilicus. Mr. Donald Armour: (1) *Primary carcinoma of the appendix.* (2) *Polycystic (congenital cystic) kidney.* Mr. McAdam Eccles: (1) *Fibrolipoma* from the forehead of a man; the patient was shown at the last clinical meeting of the society, when it had been diagnosed as probably dermoid. (2) *Alveolar sarcoma of the ovary* from a girl aged 11; the tumour weighed 6 lb. Mr. Cairns Forsyth: (1) A *Kidney with a cyst* which contained 22 uric acid calculi; the cyst did not communicate with the pelvis of the kidney. (2) *Kidney showing hydronephrosis from malposition of the ureter*, which sprang from the upper part of the pelvis. (3) *Liver showing extreme cirrhosis not due to alcohol.* Mr. Francis F. Muecke: A *Cast of the laryngeal ventricles* from a patient with malignant disease of the larynx. Mr. J. E. R. McDonagh: Microscopic slides showing the *Causative organisms of balanitis erosiva et gangrenosa.* The condition was said to be very rare in this country but was frequently found in Austria and Hungary. It was easily cured with peroxide of hydrogen. Dr. Abraham: A man with *Tuberosities on the face and hands, probably epitheliomatous.*

HARVEIAN SOCIETY OF LONDON.

A clinical meeting was held on Thursday, January 26th, at the Paddington Green Children's Hospital, when cases were shown by the President and members of the hospital staff and others. The President (Mr. J. Ernest Lane, F.R C S.) took the chair at 9 p.m. The following gentlemen described their cases:—Dr. Leonard Guthrie: Case of *Hydrocephalus.* Dr. Leonard Guthrie and Mr. Mayou: Case of *Pseudo-glioma.* Dr. Sutherland: Cases of (1) *Cerebellar disease;* (2) *Fibroid phthisis.* Dr. Frederick Langmead: Cases of (1) *Urticaria pigmentosa;* (2) *Congenital heart disease;* (3) *Myositis fibrosa and sclerodermia in an infant.* Mr. Reginald Miller: Cases of (1) *Raynaud's disease;* (2) *Polioencephalitis.* Mr. Edmunds: Cases of (1) *Hypospadias;* (2) *Cyst of the humerus.* Dr. G. de B. Turtle: Case of *Pyloric spasm.* The President: Two cases of *Syphilis treated by "606."*

Reviews.

DEATH IN ART.

THE scholarly son of a distinguished father, Dr. PARKES WEBER is well known for his interest in, and knowledge of, ancient coins and medals, and in his latest book, *Aspects of Death in Art*,[1] he deals once more with this fascinating subject. The volume, which is made up of "a series of articles reprinted, with many alterations and additions, from the *Numismatic Chronicle*, 1909–10, Nos. 36–38," is, we are told:

> intended to be an essay, not on the iconography of death, but on the mental attitudes towards the idea of death, and the various ways in which the idea of death has, or may be supposed to have, affected the living individual—his mental and physical state, and especially the direction and force of his action—as illustrated by minor works of art, especially medals, engraved gems, jewels, etc.

With this object in view Dr. Weber has traced, from early Greek times down to our own days, the varying conceptions of death and the different devices adopted by men to remind them of the undiscovered country from whose bourne no traveller returns. There is a striking contrast between these emblems in Pagan and in Christian times. The peoples of antiquity, for the most part, seem to have regarded the advent of death with the indifference or resignation born of a fatalistic acceptance of the inevitable.

> Omnes una manet nox
> Et calcanda semel via leti.

Roughly stated, the Pagan attitude towards death is expressed in the maxim, "Let us eat and drink for to-morrow we die." The Christian, on the other hand, looked upon death as the break of a new day, the gate leading to eternal life. Man's sojourn on earth was looked upon as a time of preparation for a better state, and people therefore took refuge from the temptations of the world in monasteries and longed for death as a deliverance—a feeling which found its most intense expression in St. Teresa's lines "*Muero porque no muero.*" Philosophers braced themselves to meet their fate with the thought of Hamlet: "If it be now, 'tis not to come: if it be not to come, it will be now; if it be not now, yet it will come: the readiness is all." Nowadays we perhaps think more of living strenuously, and as far as may be joyously, than of making, like Falstaff, a good end.

In the Middle Ages the thought of what dreams may come in the sleep of death was ever present, and the symbolism expressed not only the emptiness of things, but made strong appeal to the fears of the sinner by impressing upon him the truth that in the grave there is no repentance. Although images of corpses carried round at banquets, skeletons as ornaments of drinking cups, and suchlike devices to remind men that in the midst of life they are in death, were common enough in antiquity, the fashion of *memento mori* emblems did not reach its height till the fifteenth, sixteenth, and seventeenth centuries. Dr. Weber says:

> The popularity of *memento mori* devices certainly culminated in the "Dance of Death" of the sixteenth century. . . . *Memento mori* devices occurred everywhere, on paintings and prints, on sepulchral monuments, as architectural ornaments, in books as emblems, on all kinds of jewellery (especially on memorial finger-rings), on devotional objects (such as rosary beads in the form of Death's heads), and on medals.

Elsewhere we are told that:

> Philosophical considerations on life and death were likewise introduced into anatomical lectures and demonstrations; and in an old engraving of the Anatomical Theatre of Leiden in 1610 skeletons are represented holding up *memento mori* and kindred quotations—less probably for the benefit and instruction of the medical students than for the edification of the learned men, lawyers, travelling noblemen, fashionable ladies, and sightseers, who in former times used to visit the anatomical theatres out of curiosity or in search of emotional distractions.

This general insistence on the briefness and uncertainty of human life was undoubtedly in large measure due to the extreme precariousness of existence in those days, when men spent their lives in the midst of wars and rumours of wars, when violent death was so common as to be regarded as a part of the natural order of things, and when plague and other epidemic diseases, more ruthless than the sword, wrought unchecked havoc among the peoples of the earth.

Many antique coins, "illustrating," in the words of Dr. Parkes Weber, "a medical and hygienic attitude towards preventable death," still exist, which were originally struck to commemorate the deliverance of some town or district from either of these terrible scourges. An example is furnished by some Greek silver coins, dating from the fifth century before Christ, which were issued in honour of the prevention of an outbreak of sickness in the city of Selinus in Sicily. Dr. Weber's suggestion that this sickness, which was averted by the drainage of some marshes near the city, was malaria, is supported by the fact that it was about the same period that this most deadly of diseases first appeared amongst the Greeks, whose decadence has been plausibly traced to its ravages.

Of another class of medal connected with epidemics, such as those which in the Middle Ages were largely used in Italy and elsewhere as safeguards against plague, we find no mention. Although those we have seen have no artistic merit, they might well have found a place in Dr. Parkes Weber's monograph.

We have no space to follow the author through all the chapters of his most interesting book. It is sufficient to say that he has dealt with his subject with a fullness of first hand knowledge and a thoroughness of detail which are rare in these days of hasty compilations. If we might hint a fault in a work so admirable as a whole, it would be that the classification of medals is somewhat unnecessarily complicated. This leads to a good deal of repetition. Thus the line of Manilius:

> Nascentes morimur, finisque ab origine pendet,

with its very unphysiological paraphrase by a modern physiologist, "The first *cry* of the newly-born child is the first *step* towards the grave," is repeated with a frequency which suggests that Dr. Weber believes that custom cannot stale an ancient truism. The same remark might be made in regard to several other quotations. We venture to think, too, that Dr. Weber is a little too meticulous in verifying his references. No reader of Shakespeare's sonnets could forget the line so characteristic of the poet to whom the thought of the grave was ever present, if we may judge from his many allusions to it:

> And Death once dead, there's no more dying then.

Dr. Weber's acknowledgement of his indebtedness to a friend for tracing this not very recondite quotation to its source reminds us of the professor in Thackeray who carefully gives the book and line of the first line of the *Iliad*. This punctiliousness has led Dr. Weber to overload almost every page of his book with footnotes which are a constant distraction to the reader, all the greater since they are to a large extent unnecessary. Footnote answers to text in an antiphonal reiteration of the theme. This makes it somewhat remarkable that the index, where a little repetition would be helpful, is rather meagre.

To the same habit of mind which leads to insistence on the obvious is due a certain tendency to platitude. The very first sentence of Dr. Parkes Weber's book, "Death is no unworthy subject for human consideration," reminds us of Mr. Pickwick's remark to Count Smorltork, "The word politics in itself comprises a subject of no inconsiderable magnitude." His reflections in general are apt to be otiose. In his wealth of quotations we wonder that he has missed Mr. Justice Shallow's *obiter dictum*: "Certain, 'tis certain; very sure, very sure: death, as the Psalmist saith, is certain to all; all shall die."

But, after all, Dr. Parkes Weber does not intend his book to be a meditation on death. As a treatise on medals, gems, etc., dealing with the symbolism of death and with the attitude of men's minds towards the subject throughout human history, it is entitled to very high praise. It is well printed and beautifully illustrated, and we congratulate the learned author on having produced a work at once scholarly and generally interesting.

[1] *Aspects of Death*, and their effects on the living, as illustrated by minor works of art, especially medals, engraved gems, jewels, etc. By F. Parkes Weber, M.A., M.D. With 58 figures in the text. Published by T. Fisher Unwin, Adelphi Terrace, London; Inselstrasse 20, Leipzig. 1910. (Pp. 160. 5s. net.)

ROENTGEN RAYS AND RADIO-ACTIVITY.

THE toll of Roentgen-ray victims in the United States is even greater than in this country. At least four American pioneers have perished as a result of carcinoma set up by the early indiscriminate use of the rays, and to these must now be added the name of Dr. MIHRAN K. KASSABIAN, of Philadelphia, whose death was chronicled in our issue of August 13th. Since then there has come to our table the second edition of his *Roentgen Rays and Electro-Therapeutics*,[2] a work which, first published in 1907, has already attained a considerable reputation on both sides of the Atlantic. The completion of this edition must have been a death-bed effort, for some of the more recent developments in medical electricity, particularly in the sphere of ionic therapy, are included. The spirit of scientific detachment in which the work has been done is sufficiently indicated when we say that, except for some pictures of his hands to illustrate the ravages of the rays, there is no reference to the fact that for eight years the author had been in the grip of a disease, in its later stages malignant, caused by the very agency of which he writes. It is in keeping with the fine traditions of self-effacement in medicine that there should be no murmur of self-pity or advertisement of martyrdom, and the work thus planned and carried heroically to a conclusion is no unworthy memorial of a man deserving of all honour. The late Dr. Kassabian had not only the practical genius we expect of one who can go as he into details of technique; it is clear from these chapters that he had also the gift of imagination. Perhaps it is only in the true scientific temperament that the practical and the speculative come together. Thus men of Kassabian's type may at one moment be indulging their imagination with the vast problems of radio-activity, weighing electrons in scales and ultra-gases in a balance, and at the next be devoting an equal attention to the business of cleaning a mercury interrupter, or developing a radiographic negative, or devising a tube holder. It is in this fashion that the way is blazed for future knowledge. Two-thirds of the book are given up to the Roentgen rays in diagnosis and treatment; the remainder to the various electrical modalities, with a chapter or two to radium and photo-therapy. We reviewed this work upon its first appearance (BRITISH MEDICAL JOURNAL, January 25th, 1908, page 207), and therefore it is only necessary to mention one or two features of the new edition. The progress of the last three years has been chiefly on the side of radiography. Dr. Kassabian, by the way, uses the term "skiagraphy," for which there is much to be said; but as nearly twenty changes, each with the terminal "graph," are rung by various workers in describing a picture produced by the Roentgen rays, it seems desirable that the next Congress of Radiologists should try to standardize the nomenclature. In radiotherapy the advance has been slighter. A new conquest has been made here and there, as in the treatment of epilepsy, according to this author, but in certain respects the rays have been superseded by radium or the light cure. Dr. Kassabian, however, after making a comparative study of the value of radium and the Roentgen rays in a series of epitheliomatous cases, holds the results from the *x* rays to be in every way superior. In radiography the principal advance has been in the improvement of instrumentation making instantaneous exposure possible. Teleradiography has also come on the scene, and Dr. Kassabian strongly urges its adoption, stating that, in conjunction with stereoscopy, he has found it useful in the study of cardiac and pulmonary affections. Again, the stereoscopic method in the production and interpretation of *x* ray negatives, which was first brought forward, we believe, in an article by Dr. Mackenzie Davidson in these columns in 1898, is being extended. The latest arrival is called "chromo-stereo-roentgenography," which again suggests the advisability of a simplification of terms. The uses of plastic radiography, also, are becoming appreciated, and Dr. Kassabian appears to attach a good deal of importance to all these methods of bringing up the Roentgen image We speak of medical electricity as a new science. As a science it may be new; as a form of application it is surprisingly old, and we need an American's reminder that in three London hospitals (Middlesex, St. Bartholomew's, and St. Thomas's) medical electricity was practised in the eighteenth century. If it has been exploited by the charlatan, this is largely due to the fact that it has been neglected in the medical curriculum. Dr. Kassabian suggests that one hour daily devoted to electro-therapeutics for two terms in the medical students' course would number the days of the quack "specialist." The authority and scientific method of such works as this will also go far to accomplish the same result.

In the ready-made review "for favour of insertion" which French publishers have a habit of enclosing, and which accompanies Dr. H. GUILLEMINOT'S *Radiométrie Fluoroscopique*,[3] it is stated that no procedure of *x*-ray measurement has yet received the sanction of general acceptance. It is true that all methods of measurement and dosage are open to criticism, but the preponderating opinion up to now has inclined to the various physico-chemical systems in vogue. The Holzknecht chromo-radiometer in particular is a touchstone for the protagonists of other methods, who invariably give us in Holzknecht units the equivalent for their own. Guilleminot's method, which is fully expounded in the volume before us, is purely a fluoroscopic one. It is based upon the comparison of the fluorescence given by an *x*-ray tube with that furnished by a standard sample of radium. This delicate estimate is made with a fluorometer containing two screens of platino-cyanide of barium, each 1 square centimetre in area, the one illuminated by 2 cg. of radium bromide of 500,000 activity placed at a standard distance of 2 cm., the other by a radiation from an *x*-ray tube. The distance of the tube from the screen is adjusted until the two screens appear to have an equal radiancy, and at this distance the tube is said to be in equivalence. Guilleminot's unit of intensity of radiation, which he calls "M," is the quadruple of the intensity capable of provoking the same fluorescence as the radium standard, and his working unit of quantity, denominated M, is simply this same amount of radiant energy emitted for one minute of time. The rest is a matter of calculation. For example, if a Crookes's tube has to be placed at a distance of 3 metres (300 cm.) in order to give a screen-illumination equal to that of the radium, the number of M units at a distance of 10 cm. can be found by dividing the smaller number of centimetres into the larger and multiplying by the square of the resulting figure:

$$M = 300 \text{ cm.} \frac{300 \text{ cm.}}{10 \text{ cm.}} = 30 \text{ cm.} \quad 30 \text{ cm.} \times 30 \text{ cm.} = 900 \text{ M.}$$

In radiography one M-minute gives a properly exposed radiograph of a finger or of tissue 1 cm. in thickness. In radiotherapy the first reactionary effects appear with a dose of 400 M, which is about equal to 3 H. There is a theory underlying Dr. Guilleminot's work which, we believe, is gaining ground among radiologists. Briefly, it is that the biochemical effects of radiation are purely a function of fixed-application doses. Guilleminot dismisses the talk about the selective action of the rays and the elective action of the tissues by stating that the efficient dose at the vital spot—not, of course, the total radiation—is always constant in its results. The action of the different radiations depends entirely, he says, not upon the supposed specificity of any particular quality or wave-length of ray, but upon the distribution of the absorption of the efficacious dose in the substance of the irradiated tissue. In the establishment of this theory the whole question of filtration and ray-penetration is fully discussed, and the author, who is a radio-mathematician *par excellence*, has placed all radiological workers under a debt to him for his painstaking and truly scientific labours, whatever be the fortunes of the method or the theory with which they are immediately concerned.

VENEREAL DISEASES.

THE first part of an encyclopaedic work on venereal diseases[4] has recently been issued, and when it is stated

[2] *Roentgen Rays and Electro Therapeutics. With Chapters on Radium and Phototherapy.* Second edition. By Mihran Krikor Kassabian, M D. Lippincott's New Medical Series. Edited by Francis R. Packard. M.D. Philadelphia and London: J. B. Lippincott Company. 1910. (Roy. 8vo, pp. 580; illustrations 306. 15s.)

[3] *Radiométrie Fluoroscopique.* By Dr. H. Guilleminot. Paris: G. Steinheil. 1910. (Post 8vo, pp. 178; 12 figures. Fr 2.50.)

[4] *Handbuch der Geschlechtskrankheiten.* I Lieferung Herausgegeben von Professor Dr E. Finger, Professor Dr. J. Jadassohn, Professor Dr. S Ehrmann, and Dr. S. Gross. Vienna: Alfred Hölder. 1910. (Roy. 8vo, pp. 160. M. 5.)

that the treatise is being published mainly under the direction of Professors FINGER (Vienna) and JADASSOHN (Berne), the quality of the contributions can be relied on. Among the contributors are such well-known writers as Professors Neisser, Blaschko, Buschke, and Dimmer. This first part contains an important survey of the history of venereal diseases by Dr. Proksch, who has devoted much research to the matter, and whose published works on the history of syphilis are so valuable to those engaged in the study of that disease. Here he has made excellent use of his special erudition. Dr. Proksch introduces his contribution by an instructive chapter on prehistoric times and the relations of human venereal diseases to morbid conditions observed in animals, such as dourine of horses, for instance. Coming to historic times, he passes successively in review balanitis, condylomata acuminata, herpes genitalis, and so forth. In the pages devoted to gonorrhoea the author insists, and rightly so, on the experiment of John Hunter, whose great authority and obstinacy led to the idea that gonorrhoea and syphilis were identical, although Tode and others had pointed out that the two diseases differed totally in their evolution, complications, and treatment. It was only years after that Ricord finally demolished the false notion. The various complications of gonorrhoea as affecting various organs are dealt with, as also the important subject of gonorrhoea in women. As to the skin, Dr. Proksch does not allude to that very unusual complication of severe forms of articular gonorrhoeal infection, keratosis blennorrhagica, an excellent coloured illustration of which appears in Fasciculus V of the *Ikonographia Dermatologica*. The most interesting part of Dr. Proksch's essay is, however, that devoted to the historical survey of syphilis. As to the antiquity of the disease, whether Columbian or pre-Columbian, the author considers that no decided opinion can be given, although he appears to lean towards a pre-Columbian origin. The most important part of this chapter is certainly the discussion from the historical point of view of the syphilitic affections of various parts of the body and of the viscera. In the paragraph dealing with the circulatory apparatus due honour is given to the illustrious Morgagni, who recognized the syphilitic nature of the changes observed in the heart and blood vessels, large and small. As to the viscera, syphilitic changes had been observed, in the liver for instance, by the earlier writers on the morbus. But here again John Hunter's authority put things back, simply because he had never observed such changes. Altogether Dr. Proksch's very readable and succinct survey can be strongly recommended. This first part also includes some pages of an essay by Dr. Scherber on balanitis, etc.

Colonel F. J. LAMBKIN'S book on syphilis[5] gives in a small compass a very readable account of the diagnosis and treatment of the disease. It is a good sign to see English works on syphilis succeeding one another, for there is no doubt that proper attention has not been given to this subject. As to pathology, a more detailed description would have been useful. There is no reference to plasma cells, for instance. In the remarks on treatment of gummata, the use of the sharp spoon is not alluded to, yet in some obstinate cases it has proved very valuable. It is possible, however, that the introduction of new antisyphilitic remedies may make this and some other modes of treatment more or less unnecessary. The case of early syphilitic hemiplegia described by Colonel Lambkin should be thoroughly taken to heart. It is too much to expect that such cases will from henceforth always be treated by more potent means than mere pills. The paragraphs on syphilis of the circulatory apparatus are good, and the author is right in insisting on the value of keeping the vessels always in mind when dealing with syphilis. The critical review of the different lines of treatment is very valuable, the *pros* and *cons* being carefully weighed by one who has tried all the methods. Modern workers will readily agree with him as to the value of intramuscular injections and the ineffectuality of the pill treatment. He recognizes the value of inunction properly carried out, but it has disadvantages, and in practice, especially private civil practice, the method is one that does not recommend itself to patients. As to the intramuscular injections of insoluble preparations, it is certainly safer to give them in two stages rather than in one as recommended by the author. There are one or two misprints such as 1895 instead of 1905 as regards Schaudinn's discovery of the *Treponema pallidum* (page 8); Ravant for Ravaut; Maries for Marie; and Van Hutten instead of von Hutten. Altogether Colonel Lambkin's survey is one to be recommended, especially as it is written to the point—one might say in a military style. Last but not least, the book is well printed, and has an index.

[5] *Syphilis: Its Diagnosis and Treatment*. By Colonel F. J. Lambkin. With a preface by Sir Frederick Treves. London: Baillière, Tindall, and Cox. 1910. (Demy 8vo, pp. 202. 5s.)

Dr. SAMUEL BAUMGARTEN, in his book on diseases of the male caused by the gonococcus,[6] has produced a very comprehensive summary of his own practice, which has been founded, as he tells us in the preface, on twenty-one years' experience. He has also read extensively, and visited other countries to study the methods as practised there. It is quite exceptional to find a book by a Continental author in which English methods have received so much attention. The greater part of the work deals with the pathology and treatment of urethritis and its surgical complications. This part is almost encyclopaedic in its scope, for the number of methods of diagnosis and treatment mentioned are legion. Whilst admitting that purely expectant treatment in simple acute anterior urethritis is sufficient to cure many cases, the author holds that the inability of most patients to submit to the necessary régime renders other means imperative. He advocates irrigation of the anterior urethra with potassium permanganate solution (1 in 2,000). In the more chronic stages he relies largely upon urethroscopic examination and local treatment combined with dilatation. Full details are given as to instruments, lotions, and technique generally. Drug treatment is likewise fully discussed. The same painstaking attention to detail is also found in the chapter devoted to prophylaxis, which will undoubtedly meet with the approval of many "advanced" practitioners. The medical portion of the book, which deals with gonococcal arthritis and septicaemic conditions, is very weak. The statement is made that serums and vaccines are useless. There is finally a section on the sexual disabilities which may be, in some cases, due to gonorrhoea. There is a good index, but the paper is very thin, and the print shows through. The illustrations are also very poor. The small price is, however, some compensation, as the manual contains much material. Whilst it cannot be denied that most English surgeons would condemn a good deal of the treatment advocated, we are still glad to have this careful account of a Continental surgeon's methods.

[6] *Die durch Gonokokken verusachten Krankheiten des Mannes*. By Dr. S. Baumgarten of Budapest. Vienna: Alfred Hölder. 1910. (Roy. 8vo, pp. 413; 88 figures. 5s.)

INSANITY.

ENGLISH students of psychiatry are already provided with so many admirable treatises of mental diseases of British and American authorship that the merits of any large and comprehensive textbook must be very great to justify its translation. By translating Professor TANZI'S *Tratatto delle Malattie Mentali*,[7] a work of high distinction, Dr. FORD ROBERTSON and Dr. MACKENZIE, however, place English readers under a deep debt of obligation. Standing in the forefront of the brilliant school of Italian alienists, Professor Tanzi has produced a work so distinguished by all the qualities which make a successful textbook—masterly verbal expression, keen observation, temperate and deliberate judgement, and clear and accurate division of the subject-matter—that the translators' efforts are abundantly justified. It is, in fact, a book which neither student nor teacher can afford to neglect. Also, we take leave to say, that if the translators are to be congratulated on the choice of an author, Professor Tanzi has been no less happy in his translators. To give, in the translation of a work like this, the exact shade of meaning of the author and at the same time to preserve his force and elegance of diction is no light task, but it is one which the translators have well performed.

[7] *A Textbook of Mental Diseases*. By Eugenio Tanzi, Professor of Psychiatry, Florence. Translated by W. Ford Robertson, M.D., C.M., and T. C. MacKenzie, M.D., F.R.C.P. London: Rebman, Ltd. 1909. (Roy. 8vo, pp. 819; numerous illustrations. 24s.)

Though not so divided by the author, the book falls into two parts: the first comprises eight chapters treating of mental disease in general, its causes and anatomical substratum, and the physiology, psychology, and psychopathology of sensibility, ideation, memory, the sentiments and movements, and other external reactions; the second part treats of the individual categories of mental disease, with a concluding chapter on asylums. In considering the first part, Professor Tanzi strives throughout to reduce psychological terms and conceptions to their anatomical and physiological equivalents, and in harmony with this desire describes in careful detail all the essential facts yielded by modern research; but wherever fact and theory are conflicting or uncertain, in particular in the chapters in which special psycho-pathology is discussed, he prefers the guidance of experience and avoids all doctrinal systems. As an example of his impartiality of judgement his discussion of the importance of heredity in the causation of mental disease may be instanced. Here, after mentioning the great objections to accepting the view that acquired characters are transmissible, he states that genuine pathological heredity—the transmission of the same disease—is much rarer than is generally believed. The importance of heredity has been exaggerated, he says, by allowing cases of dissimilar heredity to pass as instances of true heredity, statistical tables having been thus constructed which "have reduced psychiatry to a register of incurable and fore-ordained monstrosities." Dissimilar heredity is "merely the effect exercised by the morbid process in the parent upon the germinal elements or upon the embryo, which is injured thereby, and consequently develops with various defects," and this transmission of weakness from father to son by means of a germ injuriously affected by any external force "has nothing in common with the mysterious process of organic heredity which repeats with precision forms, tendencies, and very special developments through a germ charged with active potentialities." Further, he shows that in compiling genealogical trees writers confound the race with the family—that is, are too prone to consider the family as having biological value, whereas in biology there are no families but only degrees of relationship. As a matter of fact, he considers that all the ordinary bodily processes unite against disease, not in favour of it, and that the descendants of those who have suffered from any disease inherit rather the power of resisting the intruding agents, which have no organic tradition, than inherit the faculty of adapting themselves thereto in the course of one or two generations. We cannot pass by this part of the book without mentioning a hypothesis adopted by the author, and of which he makes much use in elucidating the mechanism of morbid mental phenomena, and that is the existence of special psychical centres in the brain. He adduces much evidence in favour of this hypothesis, and explains by means of it the mechanism of such morbid phenomena as hallucinations, delusions, etc. The second portion of the book opens, as it should, with a clear statment of the author's views of what should be the underlying principles of any classification of a group of diseases—such as mental diseases—in which, unfortunately, the underlying pathological anatomy is still largely lacking. After reviewing and criticizing various classifications, in particular those of Krafft-Ebing and Kraepelin, he gives his own. He accepts, as furnishing the most useful criterion, their probable causation, and in harmony with this scheme considers first those insanities which are the result of external intoxication (pellagra, alcoholism and morphinism, cocainism, etc.); then those due to toxic infections and autointoxication (amentia, uraemic psychoses, thyroid psychoses, and general paralysis); then encephalopathies (acquired idiocy, head traumatism, cerebral syphilis, and apoplectic senile dementia); then affective psychoses (melancholia, mania, and circular psychoses); the constitutional neuro psychoses (constitutional neurasthenia or obsessive psychoses, hysteria, epilepsy); dementia praecox; and, lastly, degenerative mental anomalies (sexual perversion), constitutional immorality, paranoia, and intellectual feebleness or hereditary imbecility). This simple classification shows very well the author's views. It will be noted that Professor Tanzi agrees with Kraepelin in grouping under one common head (dementia praecox), hebephrenia, katatonia, and paranoid dementia, which latter he considers rightly separated from paranoia, but that he retains the classical categories of mania and melancholia as separate clinical entities. Their identity of pathogenesis is, he says, only of theoretical interest, and, even admitting that mania and melancholia have certain relationships, he maintains that all that has been urged for manic depressive insanity only proves that simple mania—in contradistinction to melancholia—is liable to recur; that circular insanity may assume incomplete forms or the form of manic-depressive insanity; that certain cases may at their height be transformed into manic-depressive insanity by the unexpected occurrence of a melancholic attack, and that a similar transformation may occur after a manic attack. He is therefore led to believe that there is a maniacal diathesis and a melancholic diathesis. But with the conceptions which have led Kraepelin and others to formulate certain changes, of which one is the need to view an insanity in its lifelong course and not in its temporary symptomatology, the author is wholly in sympathy. Enough has been said to indicate Professor Tanzi's mode of regard of mental diseases. We have already mentioned the manner in which he sets forth his views and the excellence of his didactic methods. It remains only to be said that the triad of virtues—courage, caution, and candour—said to be essential to the scientist, are conspicuous throughout this admirable work.

In his introduction to the volume giving the results of a clinical study of the alcoholic psychoses,[8] Dr. STÖCKER says that the original intention of his investigations into the further history of the cases admitted and discharged from the Erlangen Psychiatrical Clinic as cases of *delirium potatorum* during the last ten years was to furnish a clinical and statistical contribution to the results of institutional treatment of the alcoholic psychoses. For several reasons, however, this aim was not prosecuted. For one thing, the documentary data were inadequate for the purpose; but he found also, on pushing his inquiries to the homes of the patients, that many cases classed at the clinic as alcoholic psychoses had proved to belong to quite other categories, and that the alcoholic psychosis originally diagnosed was a mere episode in the course of an insanity of different causation. In these cases, therefore, presumably the alcoholism had been merely a temporary exciting factor, and the question arose how far in other cases diagnosed as alcoholic psychoses, and in which no change of diagnosis had been called for, similar conditions might obtain. It is to this latter and deeply interesting question that the original aim of the book was deflected, and to which the author's most diligent researches have been directed. Dr. Stöcker's material comprised some 115 cases; of these, however, 25 had to be excluded as having died or being beyond the reach of examination, and the great bulk of the book consists of detailed accounts of the family and present histories, course of the mental disorders, and the results of repeated examination of each of the remaining 90. They were found to fall into five groups, namely: Chronic alcoholism upon an epileptic foundation, 34 cases; manic-depressive insanity, 27 cases; dementia praecox, 14 cases; other psychoses and psychopathies, 9 cases; and doubtful (*unklare*), 6 cases. Concerning the term "epileptic foundation," it should be said here that Dr. Stöcker accepts as evidence justifying inclusion within this category the following: Bodily signs such as microcephaly, hydrocephaly, cranial asymmetry, the "epileptic physiognomy," and the bony remnants of rickets; and characters such as a history of eclampsia infantum, late bed-wetting, frequent headache, somnambulation, teeth-grinding, etc. In this class also are included the cases of dipsomania or periodic drunkenness (22 cases), which, with many other authorities, he regards as a periodic psychosis; he says that in almost all of his cases within this group of alcohol-epilepsy he was able to ascertain that manifest epileptic symptoms (in the wide acceptation of the term) had existed prior to the alcoholism. As in the epileptic group, so in the four following categories he regards the cases with a view to their whole course and development rather than their symptomatology at any particular time. Thus, in the manic-depressive group, the most were cases of chronic mania; in the dementia praecox group, some would be

[8] *Klinischer Beitrag zur Frage der Alkoholpsychosen.* Von Dr Wilhelm Stöcker, Assistant in the Psychiatrical Clinic, Erlangen Jena: Gustav Fischer. 1910. (Roy. 8vo, pp. 298. M. 7.50.)

classed by others as alcohol-paranoia, and so on; but in all cases the author maintains that the alcoholism merely revealed, and at times gave colour to, the clinical picture of the fundamental mental disorders. To sum up, according to Dr. Stöcker (1) chronic alcoholism is in the first line a symptom of mental disorder; (2) it may so excite a latent (and perhaps without alcohol long to remain latent), epilepsy, chronic mania, dementia praecox, etc., that a turbulent symptom complex may suddenly appear; (3) it may for some reason give a particular characteristic colouring to the form of mental disorder so as to disguise its fundamental nature, and (4) it may produce an independent symptom-complex on the foundation of existing mental disease. Dr. Stöcker does not discuss the important question of parental alcoholism as the cause of mental defect or disorder in the offspring, but he wonders, in passing, whether in such cases sufficient consideration is given to the possibly pathological and secondary nature of the parental alcoholism. Theoretical considerations aside, Dr. Stöcker's teaching would seem to be that the prognosis and treatment of the alcoholic psychoses turn upon the nature of the fundamental mental disorder—that the fate of the alcoholic precocious dement is pronounced with the diagnosis; that of the epileptic alcoholic is somewhat better if alcohol is absolutely interdicted; whilst that of the alcoholic manic-depressive may be better still.

A small book, whose title, *Insanity in Every-Day Practice*,[9] sufficiently indicates its scope and aim, by Dr. E. C. YOUNGER, late Senior Assistant Medical Officer at Hanwell Asylum, is now in its second edition. With no pretensions to textbook magnitude or scientific discussion, this brief treatise is meant to be a mere "outline chart" for the guidance of the hurried general practitioner. Well and clearly written, giving excellent advice as to the method of investigating any case of suspected insanity, and the procedure of certification, and containing many practical hints derived from the author's personal experience, this little book well fulfils its author's aims. The classification of the forms of insanity followed is that adopted by the Royal College of Physicians of London, which for most practical purposes is perhaps as good as any other.

The third volume of reports from the department for mental and nervous diseases[10] in the University of Palermo contains fourteen papers dealing with the relation between neurosis and civilization, general paralysis and head injuries, heredity in relation to nervous disorder, periosteal nerves and their termination, vibro-sensation in deaf-mutes, the cauda equina, changes in the sympathetic ganglia after chloroform inhalation, relation between tabes and general paralysis, intestinal neurasthenia, and the influence of alcohol on germ plasm. Of these papers, perhaps the most elaborate is that on the cauda equina, which gives a good historical account of work on that section of the nervous system, with a clinical and experimental study by Delisi, the author of the paper—the whole a very thorough and capable piece of work. The influence of heredity in the causation and propagation of nerve diseases is strongly emphasized in more than one of the papers, and the deleterious effects of alcohol especially mentioned. The paper by Dr. Frisco on intestinal neurasthenia is suggestive and interesting. In the opening paper by Dr. Colella, on neuroses and civilization, it is well pointed out that, whilst the State insists on equal education for all, it cannot provide equality of brains in the children to be educated, and hence a certain proportion of children are subject to an overstrain of the nervous system.

The purpose of *The Law Relating to Pauper Lunatics*,[11] which is now, in response to a demand which has proved its utility, in its second edition, is to present the statute law of lunacy with regard to pauper lunatics together with cases that have been decided thereon. As its author pointed out in his preface to his first edition, published in 1903, the larger works on lunacy law deal with this branch of law in general, and as these are not always readily accessible, and when accessible not always easy of reference, there was a definite need for a book such as this, a compact volume, containing and commenting upon the law but without any theoretical discussion—in short, an entirely practical treatise and guide for practitioners and others who are concerned with the certification or care of pauper lunatics. Although no drastic statutory changes have been made since the appearance of the first edition, certain revisions and additions have been called for and are now included, with particular regard to expenses of maintenance and reimbursement of the same; important decisions in the courts have been recorded and several appendices set forth parts of the Lunacy Acts; the rules made by the Commissioners in Lunacy and the rules in lunacy have also been added. The book is divided into three parts, Part I treating of the Lunacy Acts, and considering, in successive chapters, institutions for lunatics, summary reception orders, lunatics in workhouses, medical certificates, and reception orders, removal and discharge from institutions, miscellaneous provisions, offenders and proceedings, expenses and orders of maintenance, and reimbursement from lunatics' estate. Part II treats of the Criminal Lunatics Acts, and Part III is composed of the appendices already mentioned. The matter of the book is fully and admirably indexed and, further, is prefaced, first, by a useful and complete table of statutes, and secondly, by a table of cases, to which constant reference is made in the text. Numerous cross-references tie together the whole subject-matter and ensure a thorough grasp of the meaning and application of every section of the Act. To medical men who purpose making a special study of lunacy law this small book should prove invaluable, both on account of the light it throws on the Lunacy Acts and for reference on particular occasions for the determination of some knotty point encountered in practice. Medical officers of workhouses and medical superintendents of asylums particularly will find this work of great use.

[9] *Insanity in Every-Day Practice.* By E. C. Younger, M.D.Brux., M.R.C.P.Lond., D.P.H., etc. Second edition, revised and enlarged. London: Baillière, Tindall, and Cox. 1910. (Cr. 8vo, pp. 132. 3s. 6d.)

[10] *Annali della Clinica della Malattie Mentali e Nervose della R. Università di Palermo.* Dal Prof. Colella. Vol. iii. (Imp. 8vo, pp. 435.)

[11] *The Law Relating to Pauper Lunatics.* By Sydney Davey, B.A., LL.B., Barrister-at-Law. Second edition. 1910. London: Poor Law Publications Company. (Post 8vo, pp. 315. 6s.)

OPOTHERAPY AND INTERNAL SECRETIONS.

THE practice of administering the tissues, secretions, and excreta of various animals as remedies for disease reaches back into the dawn of history, and exists at the present day amongst most primitive races. Traces of it are to be found among the civilized peoples of antiquity, from whom it was handed down to our own forefathers, to die out almost entirely in the times immediately preceding the scientific revival of therapeutics in the nineteenth century. Under the new name of "opotherapy" it has been fashionable during the last twenty years, and nowhere can a better account be found of the numerous therapeutic experiments, many of them interesting and suggestive, that have been carried out during that period than in Dr. PAUL CARNOT'S handbook of *Opothérapie*.[12] It is interesting to see that he includes under this heading certain well-established remedies, such as, for example, cod-liver oil, the virtue of which he suggests depends not solely upon its being an easily assimilable fat, but upon its containing certain constituents of the liver which act in a specific manner. For this reason he is inclined to agree with those old-fashioned practitioners who thought the repulsive cod-liver oil of fifty years ago more beneficial than the over-refined modern product, although Dr. Carnot believes that the Norwegian oil, as at present prepared, preserves most of its useful properties, while those elements that were disgusting and harmful in the old oil are eliminated. Another example of a remedy which he regards as based upon opotherapeutic principles is raw meat or raw meat juice, the value of which in the treatment of tuberculosis is widely recognized. In addition pepsin, pancreatin, thyroidin, and adrenalin have gained for themselves secure positions in the materia medica, but each possesses a physiological action which is more or less intelligibly applicable in the treatment of disease, but is there any ground for conceding the principle of opotherapy—namely, that the appropriate means of treating disturbances of the function of an organ—is to be looked for

[12] *Bibliothèque de thérapeutique de A. Gilbert et P. Carnot: Médicaments animaux—opothérapie.* Par le Dr. Paul Carnot. Paris: J. B. Baillière et Fils. 1911. (Demy 8vo, pp. 614, figs. 90. Fr. 12.)

in the administration of fresh portions of the same organ, or its juices or dried extracts? There seems to be only slender foundation for such a doctrine, but those who desire to learn what can be said in its favour will find the matter fairly set out in this book, together with all they may require to know respecting the methods of preparation and administration of the various organic extracts and juices.

Those who desire to pursue the study of the subject from the physiological side cannot do better than read the book, *Innere Sekretion*,[13] in which Dr. BIEDL has given a very complete account of the present knowledge on the interesting subject of internal secretions, a subject upon which he himself has been a prolific worker. The introductory portion deals with general questions, such as internal secretions as a physiological phenomenon and the importance of hormones in the chemical correlation of the body. This is followed by an account of the individual organs which yield internal secretions, those which occupy the greatest space being the thyroid, the suprarenal, the pituitary, and the pancreas. The work concludes with a full bibliography, extending over 125 pages. Taking a rough average of 40 references to a page, we thus have just about 5,000 references. No student, and very few investigators, have the necessary time, patience, or opportunity to read all these papers, and so every one will be grateful to Dr. Biedl for extracting and summarizing their contents in the pages which occupy the bulk of his work. The book, moreover, is written in a clear and interesting style, and will well repay perusal. We think it deserves translation into English and other languages, so as to ensure a wider circle of readers. We would suggest to Dr. Biedl or to any translator that in future the value of the book might be still further enhanced by the insertion of illustrations, such, for instance, as a few typical blood pressure tracings of the effects of adrenalin, etc., and diagrams to make clearer the development of the pituitary body. Embryological and histological descriptions are rendered more interesting and clearer by the introduction of well-selected drawings and photomicrographs. We note also the absence of an index.

VETERINARY ANATOMY.

BY producing a *Textbook of Veterinary Anatomy*[14] Professor SISSON, of Ohio State University, has conferred a boon on his professional brethren. Within the limits of a volume of convenient size he has dealt with the comparative anatomy of the domestic animals in a systematic manner. Histology and embryology are omitted entirely, no reference is made to the anatomy of the fowl, and after two pages devoted to introduction, the subject of osteology is begun. The arrangements for the purpose of comparative study are those which have been generally adopted by other writers in the past. The horse is chosen for general description; the succeeding sections deal with the ox, sheep, pig and dog. Although comparisons are instituted, yet each animal is fully described and the statements made are far from being a mere assertion of the absence or presence of some particular feature in a viscus, muscle, etc. Thus, the liver of the horse is fully described and illustrated by three figures in which the exact limitations of its various impressions are defined and its peritoneal relations indicated; in the following chapters the ox's liver is described and illustrated by three figures, the sheep's liver has two figures illustrating its text, the pig and dog are also treated in the same lavish manner. The book will be found especially valuable in that the sections devoted to the thoracic and abdominal viscera contain many new facts amplifying the current views in the matter of the relations of these organs to each other. These facts have been obtained by applying to the study of the anatomy of the domestic animals the methods employed by the human anatomist, namely, the injection of formalin and study of frozen sections. Owing to the fact that new works devoted to veterinary anatomy are the reverse of plentiful, it is not a matter of surprise that many alterations in nomenclature are to be found To the student struggling with a host of new names these alterations are matters of some moment. He finds his dissecting guide using one name and his systematic book another. In the present volume the alterations are in many cases explained by footnotes. The student may further be comforted by the fact that these alterations represent an attempt to establish a uniform nomenclature. All the same, many of the new names are distinctly cumbersome. The os calcis becomes the "fibular tarsal bone," the astragalus the "tibial tarsal bone." The old names, still considered orthodox in human anatomy, have certainly the merit of brevity. It is curious that in the section on myology the principal alterations in names are made in the dorsal musculature of the forearm and leg, though there are some in the muscles of the trunk. One notable alteration may be quoted. The flexor metatarsi of Percivall, Chauveau, and McFadyean undergoes quite a transformation. Following Ellenberger, apparently the muscular portion becomes the tibialis anterior, while the tendinous part, taking origin from the femoral digital fossa, is designated the peroneus tertius. The reason assigned for this alteration is that the old name is inapplicable to the other domestic animals in which the peroneus tertius, as a muscle, is well developed. The curious thing is that the only peroneus hitherto described in the horse is here called the lateral digital extensor. This alteration is apparently the outcome of an attempt to make the muscles of the dog harmonize in nomenclature with those of the horse. It is, however, difficult to see the homology existing between the tendon of the flexor metatarsi and the peroneus tertius in man, and it is from human anatomy that the term has evidently been borrowed. As Paterson remarks, the true peroneus tertius is essentially a human muscle. The only homologue the tendon appears to have in man is the strong intermuscular septum dipping backwards between and affording a surface of origin to the tibialis anticus and the extensor longus digitorum. A step in the right direction is the elimination of the pyriformis from equine anatomy. The subcarpal ligament, owing to its importance in lameness, merited a better description. The supracarpal or check ligament has been, quite properly, included as the radial head of the perforatus. In the section on the hoof, the terms coronary cushion and coronary matrix are used synonymously, whereas it is very necessary to distinguish the horn-producing modified corium from the underlying connective tissue pad. Later, care is taken to observe this condition, for plantar cushion and sensitive frog are distinguished. The surgical bearing of the subject is not forgotten in dealing with various regions. As a compensation for the alterations in nomenclature, the student will find of great use the illustrations and photographs with which the book is so copiously provided. Not only are they numerous, but even in their detail quite clear. The index is comprehensive and well arranged. We have no hesitation in saying that the book is one which can be confidently recommended to both students and practitioners.

WILD ANIMALS IN CAPTIVITY.

ALL lovers of animals will welcome the English translation of CARL HAGENBECK'S *Beasts and Men*.[15] The book, which is in reality an autobiography, gives an account of the author's experiences for half a century among wild animals. No man has ever had a wider experience or more thoroughly understood and loved animals than Carl Hagenbeck, whose zoological gardens at Hamburg are known all over the world. Born in 1848, the son of a fisherman trading in a suburb of Hamburg, his interest in animals was first aroused by some seals captured in the nets by fishermen employed by his father. The seals were kept alive in wooden tubs and exhibited to the inhabitants of Hamburg upon payment of a penny each person. From this small beginning, by dint of hard work, good business capacity and an absorbing love of animals, Carl Hagenbeck has been able to build a vast trade, for not only is he the possessor of a unique collection, but he also is the largest dealer in wild animals, supplying other zoological gardens and travelling menageries. He is, moreover, a trainer of animals, and the accounts of

[13] *Innere Sekretion*. By Dr. A. Biedl. With a preface by Hofrath Professor R. Paltauf, Vienna. Berlin and Vienna: Urban and Schwarzenberg. 1910. (Sup. roy. 8vo, pp 549 M. 20.)

[14] *A Textbook of Veterinary Anatomy*. By Septimus Sisson, S.B., V.S., Professor of Comparative Anatomy in Ohio State University. Philadelphia and London: W. B. Saunders Company. 1910. (Imp. 8vo, pp. 826. 30s.)

[15] *Beasts and Men*. Being Carl Hagenbeck's experiences for half a century among wild animals. An abridged translation by Hugh S. R. Elliot and A. G. Thacker. London: Longmans, Green and Co. 1909. (Roy. 8vo, pp. 314. 12s. 6d.)

the methods adopted in varying cases are extremely interesting. There are chapters on carnivores, on the great herbivores and on reptiles in captivity, but perhaps the most interesting are those devoted to the methods of capturing wild animals and on acclimatization and breeding; the success which has attended some of his experiments in cross-breeding are not merely of interest to the general reader, but of considerable importance to science in relation to the vexed question of species. In the account of the treatment of animals in sickness one thing is suggestive—it is the importance which Hagenbeck attaches to a plentiful supply of bone diet for all animals suffering from affections of the teeth, to which animals in captivity appear to be very liable. Might not this remedy be of use to human beings also suffering in like manner? One very pleasing feature of the book is the obvious love the author has for all animals under his care, and the insistent note of kindness which runs through the whole and which is nothing but what one would expect from the kindly face of the man as shown in the frontispiece. The abridged English translation, to which there is a "Foreword" by Dr. Chalmers Mitchell, is well done. Altogether the book is delightful reading, full of interest, and, from the abundance of anecdote, full of amusement.

NOTES ON BOOKS.

THE sale of the first edition of Mr. A. HERBERT HART'S brochure, *How to Cut the Drug Bill*, which was reviewed in these columns last year, has been so rapid that already another edition has been called for. This is in itself sufficient proof that the work has been found of use to practitioners, as we believed it would. The present edition is thoroughly up to date, and some fresh formulae are included.

It must be confessed that Dr. HAROLD A. HAIG'S book on *The Plant Cell*[1] is disappointing, the more so in that it contains much information valuable to the student and many excellent photomicrographs. It is not easy to understand for what class of student it is intended. The first impression is that it has been designed for the use of the beginner, but on the other hand, terms are used, without any indication of their significance, which would not be understood by one without previous botanical knowledge. This criticism applies with special force to the table on page 4, showing the supposed line of evolution of the higher plants. The appendix to Chapter X on the physics of the absorption of water, salts, and gases is too sketchy and not altogether accurate. The book gives the impression of being hastily compiled without sufficient care and forethought having been expended upon either the material or its arrangement. There certainly is room for a book of the character aimed at, and if a second edition should be called for Dr. Haig might, by remodelling the present volume, produce one of great value.

It is essential that in the war against malaria the general public should be suitably instructed. Professor ROSS, realizing this, has published a pamphlet entitled *A Summary of Facts Regarding Malaria*.[2] The pamphlet is specially meant for public instruction, and is published at the nominal price of 2d. so that it may easily be within the reach of all. A description of the malarial parasites and the fever they give rise to comes first, then the mode of infection, then facts about mosquitos, and finally personal and public prevention. Anyone reading the pamphlet, even though possessing no previous knowledge of the subject, should get quite an intelligible grasp of the part that the mosquito plays in the spread of malaria, and it is to be hoped that the work will have a wide circulation and do much good.

The M.C.C. Chart of the Elements[3] contains a full list of the known elements arranged in tabular form in accordance with the periodic law of Mendeléeff; it measures 42 in. by 34 in., and each element is allotted a space in which its principal properties, chemical and physical, are concisely described. The chart has evident advantages for teaching purposes.

The subtitle of Dr. HASTINGS YOUNG'S *First Aid to the Sick*[4] furnishes a more accurate description of the scope of the work. "Diseases, their Description and Treatment, a Work of Reference for the Home, Written in Plain Language," gives a fairly correct idea of what will be found in these pages. The author explains that he has attempted to supply a companion work to the manuals on first aid to the injured. This, however, is essentially a popular book on medicine, similar to the many books of that kind with which we are all familiar. It is written in clear language, and the facts seem to be sufficiently accurate. The information goes beyond what is needed for emergencies when a doctor is available within reasonable time, which is the essential of first aid treatment, and is hardly sufficient to enable any one to treat a patient when medical assistance cannot be obtained. Washing out the stomach for dyspepsia (p. 65) does not suggest first aid, and some of the drugs recommended are hardly safe for general use, for example, phenacetin and antipyrin for neuralgia and sulphonal for insomnia. The book may have its uses, but we suggest that the title might be altered with advantage.

SUTHERLAND'S *Dispensing Made Easy*[5] is intended for medical practitioners who dispense, and accordingly no space is devoted to any of those branches of compounding which are not likely to be done by medical men. Practical hints are given for dispensing those forms of medicines—mixtures, ointments, etc.—which are always required in general practice, and useful notes on the arrangement of the "surgery" and other practical matters. Questions of economy have a prominent place, and the employment of the minimum of alcohol by using concentrated liquors, etc., is recommended on this ground. Many well-chosen formulae from various sources are included. The fact that the book has reached its fourth edition shows that its useful nature has been appreciated.

Dr. O'HEA'S little work, *The Rearing of Children*,[6] "has been written under the conviction that there is a very real need for a simple and reliable book dealing with the way in which a child should be reared." In the introduction he writes: "It is for the love of the little ones and to make your noble task the more easy that I present the following pages to you—the mothers of the race." In spite of numerous instances of grandiose writing of a similar nature the work is not without merits. The author's views on infant feeding are sound enough as a whole, and his directions are simple and such as any intelligent mother could follow. The section on infectious diseases is the best in the book. Here there is much less evidence of a desire of parading professional knowledge before lay eyes than there is in many others of the now numerous works on the same subject. The author would seem to have happily selected the points in which mothers and nurses can take an intelligent interest, and thereby aid the efforts of the doctor on behalf of the patient and in the prevention of the spread of infection. His manner of dealing, too, with vaccination and the serum treatment of diphtheria are calculated to remove any scruples that might exist to the employment of these measures. He is less happy in dealing with the treatment of bronchitis in rachitic babies when he states: "A poultice cannot do any harm excepting only when it is applied to a wound, for then there is certainly a chance that it may introduce germs of disease." Notwithstanding this confident assertion of the author, there is now a well-established belief on the part of many authorities that poultices in such cases, by their very weight and associated trappings, may so hamper the laboured respiratory efforts as to lead to atelectasis and subsequent bronchopneumonia. The author, too, would find many to differ from him in his enthusiastic advocacy of steam kettles and steam tents. The value of the little work would not be at all detracted from by the omission of moral maxims which Mr. Jaggers might have characterized as "pious, but not to the purpose."

[1] *The Plant Cell; its Modifications and Vital Processes.* By Harold A. Haig, M.B., B.S.Lond. London: Charles Griffin and Company, Limited. 1910. (Demy 8vo, pp. 219; figs. 115 and plates. 6s.)

[2] London: John Murray. (Cr. 8vo, pp. 16. 2d.)

[3] *The M.C.C. Chart of the Elements.* Unmounted 5s.; mounted on linen 8s. 6d.; mounted on linen and varnished, with roller, 12s. 6d. London: The Metallic Compositions Company, 353, Gray's Inn Road, W.C.

[4] *First Aid to the Sick.* By D. Hastings Young, M.B., M.S.Edin. London: G. Routledge and Sons, Limited. New York: E. P. Dutton and Co. (Post 8vo, pp. 286; 3s. 6d.)

[5] *Dispensing Made Easy.* By William G. Sutherland, M.B.Aberd. Fourth edition, revised by F. J. Warwick, B.A., M.B.Cantab., M.R.C.S., L.S.A. Bristol: John Wright and Sons, Ltd. 1910. (Fcap. 8vo, pp. 102 and 67 blank. 3s. 6d.)

[6] *The Rearing of Children: A Practical Handbook for Mothers.* By J. P. O'Hea, M.B.Lond., F.R.C.S. London: The Scientific Press, Limited. 1910. (Post 8vo, pp. 184. 2s.)

MEDICAL AND SURGICAL APPLIANCES.

The "Quantitest."

ON the occasion of the exhibition of medical and surgical appliances at the annual meeting at South Kensington last July we drew attention briefly to a set of apparatus, sold under the name of "Quantitest" and intended to assist practitioners in examining various secretions and excretions. Since that time this laboratory outfit has been materially enlarged and its general design somewhat recast; so it seems desirable to draw attention again to the leading points of the "Quantitest" in its latest form. It is a polished wood box (with a drop front faced with enamel and forming a kind of working shelf) containing apparatus and reagents suited both for qualitative and quantitative analyses of the normal and abnormal contents of the urine, of the stomach (fasting and after test meals), and of the faeces. The tests for each constituent are always more than one, so that conclusions can be duly controlled. The various pieces of apparatus for use with the reagents are all well designed, and, with one or two exceptions, are forms the value of which is already admitted. In addition, there are one or two pieces of apparatus (for instance, one for the rapid estimation of uric acid) which at present are not well known in England, but are esteemed abroad. The use of none of these testing appliances requires more than a reasonable expenditure of time and care to secure highly useful results, and the "Quantitest," therefore, should prove a most informing addition to a practitioner's outfit. The professional clinical research worker is somewhat disposed to pooh-pooh anything in the nature of a rule-of-thumb method of analysis, but there is no valid objection to these methods when soundly devised and carefully carried out. All laboratory methods, indeed, become practically methods of this kind to any one thoroughly versed in their application and who is capable of making elaborate calculations rapidly. Indeed, the expert himself does not attempt to dispense altogether with certain admittedly rule-of-thumb methods—for example, colorimetric tests, such as are a good many of those provided in the "Quantitest." In its preparation and arrangement, Mr. Richard Weiss, Ph.D., who devised it for the Roborat Company, had the advantage of the co-operation of two members of the medical profession, Dr. George Herschell, of London, and Mr. Andrew Charles, of Dublin. Accompanying the case is a very excellent booklet, entitled, *A Manual of Clinical Pathology*, in which each test is carefully described, provided, and the clinical significance to be attached to the results explained.

An Improved Female Catheter.

Dr. A. CAMPBELL STARK writes: One of the minor difficulties in general practice is the satisfactory use of the female catheter. The patient is often sunk into the bed in such a manner that the pelvis is at a lower level than the thigh. Passage of the catheter under these circumstances makes it impossible to catch the urine in any receptacle without soiling the bedclothes or undue exposure of the patient. To obviate this I have had a catheter made in which the usual flange is replaced by a bulbous end. To this is readily attached about 2 yards of india-rubber tubing, which grips the bulb and is not easily detached, whereas it frequently fell off the old-fashioned flange end. After passing the catheter, the urine flows into a receptacle placed on the floor. There is secured perfect drainage of the bladder and the minimum of exposure, while it is impossible for any urine to pass on to the patient or the bed. I have long used the same method for emptying the male bladder, and if makers would modify the ends of male catheters in a similar manner I am sure the change would be appreciated. Messrs. C. J. Hewlett and Son, Limited, of Charlotte Street, London, E.C., have made the glass and metal female catheter to my design, and they are in all respects quite satisfactory. It will be known as the "Bulbique" Catheter.

The Crepe Velpeau Bandage.

Some years ago we drew attention to the "Eureka" Crepe Velpeau Bandage, and now do so again, as we find that a material improvement has been introduced into its manufacture. Originally the tissue of which this bandage is made was woven in wide lengths, and a piece of the desired width for a bandage cut from it. Hence the edges of the bandage tended to be ragged, and to get more and more so as time went on. But each bandage is now separately woven, so that its edge is level, and wears at the same rate as the rest of the bandage. Another good point is that the selvedge, though perceptible to the eye, cannot be felt by the finger; the discomforts which sometimes occur when ordinary selvedge bandages are used are therefore obviated. The Eureka Crepe Velpeau bandages are light and cool, and in virtue of the fashion in which the tissue is woven present considerable elasticity, quite enough to provide the pressure usually required when varicose veins, sprains, and like conditions have to be treated. For such purposes, as also for use after confinements and abdominal operations, they are excellent. They can be obtained in various widths, and their elasticity is not diminished by washing.

Telescope Eyeglasses.

Dr. KENNETH SCOTT (London, W.) writes: Telescope eyeglasses is the name applied to a special form of spectacles for use in the higher degrees of myopia—from about 9 dioptres upwards. The result is to widen the visual field, at the same time giving clearer definition at the periphery, with freedom from distortion. As originally devised in Germany they presented the somewhat ungainly appearance of motor goggles, and, although smaller in size, were still comparatively heavy to wear. At my suggestion Messrs. Reiner and Keeler (9, Vere Street, London, W.) have succeeded in obtaining a similar effect otherwise, with the result that the outward appearance does not differ in any way, either in size or shape, from an ordinary pair of spectacles or eyeglasses. The heavy framework has been entirely eliminated, whilst the essential advantages derived from the use of a front and a back lens are retained. These lenses are only in contact at their edges, and enclose an air space between their opposing surfaces. They are mounted as a single lens in the ordinary spectacle frame. The effect of this improved form of glasses is, whilst affording equal advantages to those first mentioned, to give markedly greater freedom from aberration, including distortion; and, bearing the appearance of ordinary glasses, are quite as light to wear.

ROYAL COMMISSION ON THE POOR LAWS AND RELIEF OF DISTRESS.

STATISTICS OF PAUPERISM IN SCOTLAND.

APPENDIX, Volume XXX, has just been issued; it deals with statistical and other documents relating specially to Scotland.

Total Number of Sane Poor in Scotland.

Part I of the report deals with the number of the sane poor relieved by parish councils during the years ending May 15th, 1907 and 1908. Lunatics have not been included, and each person (although he may have been chargeable several times during the year) is reckoned as one case only.

The number of poor relieved during the year ending May 15th, 1907, was 147,660, being equal to 330 per 10,000 of the population, according to the census of 1901. Of that number, 90,073, or 201 per 10,000 of the population, were paupers or heads of families, and 57,587 were dependents or the wives and children of paupers. During 1908 the number of poor relieved was 150,456, being equal to 336 per 10,000 of the population. Of that number, 91,126, or 204 per 10,000 of the population, were paupers or heads of families, and 59,330 were dependents or the wives and children of paupers.

Duration of Chargeability.

Of the total number of poor relieved during 1907 it is found that 6.8 per cent., were chargeable for not more than 1 week; 24.0 per cent. for over 1 week but less than 3 months; 10.1 per cent. for 3 months but less than 6 months; 12.9 per cent. for 6 months but less than a year; and 46.2 per cent. were chargeable for the whole year. The percentages for 1908 are much the same.

Institutional relief was given to 83 per 10,000 of the population; out-door relief to 239 per 10,000 of the population; and relief, partly institutional and partly out-door, to 8 per 10,000. Institutional pauperism is mainly composed of male adults, and out-door pauperism of female adults and children.

Ages of Persons in Receipt of Relief.

Taking first the children, the ratio to population increases up to the age of 14, the risk of a child losing one or both parents increasing as age advances. After the age of 14 a considerable drop occurs. In the case of girls, the decline in the ratio commences at 13, which seems to suggest that many girls go to work at that age. With boys, the decrease in the rate does not commence until after 14.

The rate of local pauperism to total population continues to decline until the age of 24 is passed, but the slight drop at ages 20 to 24, as compared with the age-group 15 to 20, is due to the latter group including a certain number of children aged 15 to 16, at which age the rate would be higher than for ages 16 to 20.

Lower Rates of Aged Pauperism in Scotland.

The difference between the English and Scottish rates of pauperism is accounted for by the smaller proportion of aged persons coming upon the Scottish Poor Laws, and the smaller proportion is found in the case of both aged men and aged women. Thus while in England the rate per cent. of those receiving relief over 60 years is 14.71, in Scotland it is only 8.64. It is difficult to account for this important feature of the Scottish statistics. The Scottish people are engaged in agriculture to a greater extent than in England, and it may be that persons so employed are able to carry on their occupation to a greater age than persons employed in other industries. Moreover, the crofting system in the Highlands and Islands would tend to keep the aged off the rates, for the aged crofters who are past work continue to reside on their crofts whilst the family carry on the work. But these circumstances could not wholly account for the difference between the English and Scottish statistics of aged pauperism. Whether other factors must be sought in greater self-reliance and thrift, in the aversion to apply for relief, or in a more wholesome recognition of filial responsibilities can hardly be determined by these statistics.

Geographical Distribution of Pauperism.

The variations in the extent of pauperism in different areas are even greater in Scotland than in England and Wales. Scotland has a few large industrial centres similar, in nearly all respects, to many of the great manufacturing centres in England and Wales; but on the other hand there is no part of England and Wales which at all resembles the unproductive, thinly populated, and impoverished districts of the West and North-West Highlands of Scotland, and it is in the latter areas that the highest rate of pauperism is found. For example, in Peebles the rate on March 31st, 1906, was 7.7 per 1,000 of the population in 1901, while it was 41.0 per 1,000 in Sutherland.

First and prominent amongst the causes of this variation is the difference in the distribution of the aged population in the different counties. For instance, the number of persons over 60 years of age per 1,000 of the population in 1901 was 53.3 in Lanark and 161.3 in Zetland. The five counties with the highest proportion of aged population are Zetland (161.3), Sutherland (157.9), Orkney (152.4), Caithness (143.2), and Ross and Cromarty (134.1). These results are produced by the migration of the younger people from these poor districts to the industrial centres and the richer agricultural districts, where they find a more active market for labour. But for the aged who remain the living obtainable is but a poor one, and a larger proportion of them become dependent on poor relief than is the case in Scotland generally.

The remainder of the report deals with a summary of recommendations received from parish councils as to the care and treatment of paupers under their charge, along with other matters relating to municipal relief funds, the homeless poor, and the Elberfeld system of relief.

MESSRS. CORBYN, STACEY, AND CO., LIMITED, have been honoured with the Royal warrant of appointment as chemists to His Majesty the King. This company were similarly honoured by His late Majesty.

THE fifteenth International Congress of Hygiene and Demography will be held in Washington, D.C., from September 23rd to September 28th, 1912. Dr. John S. Fulton is Secretary-General of the Congress. Professor G. H. F. Nuttall of Cambridge is the Honorary Secretary of the British National Committee for International Congresses of Hygiene and Demography.

THE HONOUR OF THE MEDICAL PROFESSION.

A FULL report of the action for damages for alleged negligence in the performance of an operation against Mr. Charles Ryall, F.R.C.S., was published in the JOURNAL of January 21st. It ended in a verdict for the defendant, and we join with Mr. Lynn Thomas and Mr. Swinford Edwards in congratulating Mr. Ryall on the issue.

The case undoubtedly raises questions which are of importance to the whole profession.

In a letter published on January 28th (p. 229) Mr. Lynn Thomas expressed the opinion that some means should be devised whereby members of the medical profession might be safeguarded against certain risks which seem now to attend attempts to advance the progress and practice of medicine and surgery. In brief, his suggestions are (1) to formulate a code of ethics which shall govern the conduct of practitioners when called upon to appear in a court of law in a case in which the professional integrity of another practitioner is questioned; and (2) the institution of a tribunal before which the practitioner may be tried for violating the terms of the code. At first sight it might seem that these proposals were more ideal than practical, for the Central Ethical Committee of the Association has found that the formulation of a code to govern consultations between members of the profession has proved a tedious and difficult task. Even if the code now suggested were elaborated in detail, the attempt to constitute a competent court would fail if undertaken by a voluntary organization like the Association, on account of want of legal powers, and, if undertaken by the General Medical Council, on account of the limited sphere of activity of that body and the inelastic regulations under which it must act. Such criticisms indicate, indeed, that the existing machinery in this country is incapable of performing the functions suggested, but do not exclude discussion of the question whether the Legislature could not create machinery which would fulfil the purpose.

Experience teaches that, with regard to medical matters at all events, a proposal involving considerable changes will more readily command the requisite public interest and parliamentary support if it can be shown that somewhere else similar steps have already been taken with beneficial results. We are fortunate, then, in being able to point to the existence of a tribunal of a nature not unlike that proposed, and in being in a position to show that this tribunal has effected much that we would desire to see effected in this country. As will be seen later, a modified system of the German *Ehrengerichte*, or Courts of Honour, would go far to remove certain conditions detrimental alike to the welfare of the public and to that of the profession. The object has been to establish a system which, while not diminishing the protection of the public from ignorant or careless action on the part of members of the medical profession, shall at the same time safeguard the profession from legal proceedings which, though tending to impede the progress of science, are yet supported in the witness-box by medical practitioners unacquainted, except by hearsay, with the circumstances of the case in its urgent or acute stage, and unacquainted also with the fact that the treatment was justified, not only by the urgent demand of the moment, but also, perhaps, by the deliberate judgement and practice of other operators or physicians.

The German "Ehrengerichte."

In order to place the reader in possession of the facts in relation to the *ärztlichen Ehrengerichte* and *ärztlichen Ehrengerichtshof*, a few particulars must first be given as to the constitution of the *Aerztekammer*, or Medical Chambers, and as to the authority they exercise. The profession in Prussia is divided into sections corresponding to the parliamentary electoral areas, and each section has its own chamber or *Kammer*. All medical men whose names are on the register have a vote for their representative on the *Aerztekammer*, save military and naval surgeons either on active service or on leave. In the same way every medical practitioner is eligible for election to the *Kammer* in the division in which he resides. The status of these chambers is determined by a royal decree dated May 25th, 1877, modified by a second decree dated

January 23rd, 1899. In the latter it is set forth that the contents are to be published in the code or collection of laws, and it was thus given statutory recognition. The object of the institution of these *Aerztekammer* was the maintenance of the honour and interest of the medical profession. On November 25th, 1899, a Prussian law came into force dealing with medical courts of honour (*ärztliche Ehrengerichte*).

Constitution.—One court was instituted for each division represented by a medical chamber (*Aerztekammer*). It consists of five members—the chairman of the *Aerztekammer* or his official representative, three other members of the *Aerztekammer*, and a legal member who is appointed for a term of six years from one of the courts of justice. The four medical members are appointed by the *Aerztekammer*. Substitutes for each member are also appointed. The medical members do not receive any remuneration, but are allowed expenses for travelling and living when occupied on the business of the court. The legal member receives fees as well as expenses.

Powers.—The courts of honour are instituted for the purpose of upholding the prestige of the medical profession, and deal with disputes between two medical practitioners, between a practitioner and another person, and with charges against a medical practitioner. They can only deal with matter affecting medical men in the Prussian Monarchy, and have no jurisdiction over registered practitioners who are officially subjected to another disciplinary court, or over military or naval surgeons during the period of their service, whether actively employed or on leave. The court has power to take evidence on oath, to take evidence on commission, to summon witnesses and to compel witnesses to give evidence, even when the evidence deals with disputes between two practitioners. It can deal with persons convicted in various ways, including (1) by caution, (2) by reprimand, (3) by fines up to £15, and (4) by temporary or permanent disfranchisement as far as the *Aerztekammer* is concerned. It cannot remove the name of a practitioner from the register; this can be done only by an ordinary court of law. The proceedings of the *Ehrengerichte* are suspended if the charge becomes the cause of action in an ordinary court of law. A large number of minor conditions further limit the powers of the court without diminishing its plenary powers to carry out its legitimate functions.

The Ehrengerichtshof.

There is one *Ehrengerichtshof*, or appeal court of honour. This court has jurisdiction over the whole monarchy, and consists of the Chief of the Medical Department of the Ministry of Medical Affairs or his legal representative, four members of the central chamber (*Aerztekammerausschuss*) and two other medical men. Its powers are similar to those of the *Ehrengerichte*, but somewhat wider, in correspondence with its character as a court of appeal.

Procedure.

The procedure in the *Ehrengerichte* is clearly prescribed, and works smoothly. Before the case is tried by the court a preliminary examination is undertaken by the official commissioner for examination or inquiry. This examination is originated by a resolution of the court of honour, in which the charge must be set forth, but the court can refuse to open the matter at all, on legal grounds or because the evidence as to facts is insufficient. Next a statement by the Commissioner is put in, and lastly a statement by the prosecution. The Commissioner is usually nominated by the legal member of the court. The prosecution is undertaken by the nominee of the *Oberpräsident*, who holds a position somewhat similar to that of the Lord Lieutenant of a county in this country. The defendant must be summoned to the preliminary examination, and may attend if he chooses. The witnesses are only put on oath at this stage if the nature of the evidence appears to render this necessary. The Commissioner has the power to determine when sufficient evidence has been taken to justify him in sending the case for trial to the court. Each step in the procedure has to be communicated to the defendant, who may secure the services of counsel or of another medical man to undertake or support his defence, and can claim to see the papers in the case. The trial is conducted in the manner usual in German courts. The proceedings take place with closed doors. In this connexion it may perhaps be well to say that the German procedure presents certain defects which should be avoided. For example, the practice of permitting witnesses to put questions to other witnesses frequently leads to confusion. Discussions between witnesses, too, are not conducive to order or to amicable settlements. In other respects the evidence is taken much as in this country; the prosecutor ends his case by a speech, in which he asks for a verdict for his client, and also for a definite sentence which he claims is deserved; the case is closed by an address by the defendant or his counsel. The verdict is determined by a majority of the votes of the members of the court, but for a verdict of guilty four out of the five must agree. The prosecutor or the defendant can appeal against the verdict of the *Ehrengerichte*, and the case will then come before the *Ehrengerichtshof*. The other party can object to an appeal, but the decision lies with the *Ehrengerichtshof*. In any case, no appeal will be heard if it is based on new facts which could be made the basis of a fresh action. In the court of appeal a verdict adverse to the defendant must be found by at least five out of the seven members, while a verdict of acquittal can be given by a bare majority. In conclusion, it may be stated that all the proceedings of the court and the official documents must be kept in accordance with the ordinary rules of law courts, and must be submitted by the chairman once a year to the *Oberpräsident*. The court is placed under the same authority as the county court.

The Code on which the Court Works.

The Act states very definitely the purpose for which the courts exist. The third paragraph reads as follows:

> A medical practitioner is in duty bound to practise his calling conscientiously, and to show himself worthy of the respect due to his calling, both in his conduct in the practice of his calling, and also in his conduct without the practice of his calling.
>
> A medical practitioner who neglects to carry out the duties thus imposed on him merits the punishment of the court of honour.
>
> Political, scientific, or religious actions or views as such may never form the basis of an action in a court of honour.
>
> On the request of a medical practitioner, a decision with regard to his behaviour must be given by the court of honour.

Past Action of the British Medical Association.

The unsatisfactory state of affairs with regard to the manner in which medical practitioners have given evidence against other medical practitioners, or in contradiction to the evidence of other medical practitioners, has long been recognized by the Association. In 1903-4 the Medico-Political Committee conducted an inquiry as to the desirability of consultations being held between medical witnesses in cases likely to be brought before courts of law. A memorandum was drawn up and submitted to the Divisions for consideration and report. At the Representative Meeting at Oxford in 1904 a report embodying an analysis of the results was presented. This analysis showed that of 108 Divisions replying, 46 considered that it would be desirable for such consultation to take place, 33 thought that it would be undesirable, while other Divisions either thought that the scheme was impracticable or that it should be governed by special conditions. The Representative Meeting decided to refer the matter again to the Divisions, with an explanatory memorandum. Some Divisions had feared that the consultations might be regarded in law as collusion, but this objection the Medico-Political Committee was satisfied would not arise where it could be shown that the consultation was held for the purpose of ascertaining the fact of the case. Other Divisions had expressed the opinion that it would be preferable to avoid conflict in medical evidence by the appointment of medical assessors, rather than by the institution of consultations between medical witnesses. With regard to this point, the Medico-Political Committee expressed the opinion that while the appointment of medical assessors would certainly be advantageous both to the public and to the profession, this should not be proposed in substitution for the system of consultation of witnesses but should be dealt with as an independent reform. The Divisions considered the memorandum, and at Leicester in 1905 it was reported that 58 Divisions approved of the principle of consultations, 6 were opposed to it, 4 preferred that no rule should be

laid down, 3 still preferred the appointment of assessors, and 1 was of opinion that the consultations would be undesirable in Scotland. The principle was approved at the Representative Meeting (1905). The following quotation gives the general conclusions on the principles of consultations of medical witnesses submitted by the Committee to the Divisions:

1. Medical evidence in legal cases is of two kinds:
   (*a*) Questions of fact—for example, as to the amount of injury or disease present in the patient;
   (*b*) Questions of opinion and expert knowledge.
2. Medical evidence at the present time suffers from the disadvantage of being occasionally conflicting under both heads, and differences between medical witnesses in their statements as to questions of fact expose them to accusations of partisanship, which are prejudicial to the credit of the profession and to the value of medical evidence.
3. The determination of matters of fact must be arrived at by the ordinary methods of medical examination, and such examination for purposes of evidence is clearly best carried out by the witnesses for the two sides simultaneously, in order that the condition of the patient may be observed by both at the same time and under the same circumstances.
4. Such associated examination has the further advantage that it diminishes the danger of any material fact being overlooked by the medical advisers of either party.
5. This system would in many cases put each party in more complete possession than they could otherwise enjoy of the knowledge obtainable by medical examination, and would thus diminish the number of cases which now only come before the courts through imperfect knowledge of material facts by one or both parties. The diminution of litigation thereby affected would benefit not only the parties immediately concerned but also the community.
6. Although it is not supposed that such combined examinations would necessarily be followed in every case by ordinary consultation between the medical practitioners concerned, yet such consultations should as far as possible be held.
7. The procedure above indicated has the great advantage, both to the profession and the public, that it tends to place the medical witness in his true position as a witness of scientific fact, and not as an advocate or partisan of the party by whom he is employed.
8. The above considerations have for a number of years governed the action of many medical practitioners, and the procedure now suggested for more general adoption by the Association was carried out with success by the profession in Leeds, the effect being that the estimation of professional evidence in that district was unquestionably raised, and both judges and leading members of the Bar expressed their emphatic appreciation of the good results attained.

It thus appears that the British Medical Association has approved of the principle of medical practitioners meeting in consultation before appearing as witnesses in cases involving allegations of negligence or carelessness, for the purpose of ascertaining what was actually done, what the condition of the patient was at the time when the treatment was applied, and whether, under the circumstances obtaining at that time, the practitioner was justified in following the course selected.

In comparing this country with Germany, it may be asked, how far the machinery of the Prussian *Ehrengerichte* and *Ehrengerichtshof*, and the standard of ethical behaviour applying to these courts, satisfy the requirements. Is it possible to establish a code of rules to serve as a guide to medical witnesses called upon to give evidence in cases in which wrongful treatment is alleged? By the Prussian code, it must be remembered, political, scientific, and religious actions are excluded from the courts of honour, but at the same time, the practitioner can be called upon to show that he has practised his calling conscientiously, and has maintained the dignity of his profession. If a surgeon or a physician conducts his practice honestly, carefully, and conscientiously, if he applies methods of treatment which his experience teaches him are applicable in a particular case, and if he gives the necessary attention to important details in his treatment, no medical man who holds views which do not coincide with those held by the surgeon or physician is justified in discussing in a court of law the propriety or otherwise of the employment of the measures used. The case would not hinge on the real value of a scientific procedure: it would turn on the honesty and carefulness of the practitioner, and would, therefore, be admissible in the *Ehrengerichte*. If such a court were instituted in this country, it might, however, be advisable to draw up a slightly more definite code. An addition might be made to the effect that it is the duty of every medical practitioner to promote the advance of medical and surgical science by recognizing rational new methods of treatment and that damaging evidence given in a court of law against another practitioner who has utilized such reasonable new methods of treatment is a breach of duty. It would seem that the standard or code should be as wide as possible, and that cases raising new issues should be determined by precedent or the special merits of the case, rather than by hard and fast rules. This principle has governed the Central Ethical Committee of the Association in the discharge of tasks often both delicate and difficult.

While it is necessary to protect the honest and careful practitioner who seeks to advance the art of medicine and who keeps himself abreast of the progress which is taking place throughout the civilized world day by day and gives his patients the advantage of this progress at the earliest moment warranted by his judgement, there can be no desire to shield a careless member of the profession. The Prussian code meets this by providing that the practitioner must carry out his duties conscientiously. The conditions required are therefore complied with, at all events on paper. In actual practice, we find that in Germany some recent prosecutions of quacks have disclosed a striking degree of solidarity among the reputable members of the medical profession. It is quite possible that the *Ehrengerichte* need not exist to prevent medical practitioners of high standing from acting as partisan witnesses for the plaintiff or for the defendant in such cases. At all events, the miserable figure of the medical witnesses for the defence in certain quack cases heard recently in Germany contrasts markedly with the appearance of the witnesses called by unqualified practitioners in certain cases in this country.

The question whether it would be wise to press the legislature for the institution of courts of honour having definite legal powers and acting under the authority which controls the other courts cannot be answered without mature consideration and without taking into account the practical and theoretical difficulties. No useful purpose would be served unless a plan could be put forward which would have a reasonable chance of success. The support of the profession alone might be insufficient to guarantee this success; proof must be adduced that the scheme is not only of practical importance and soundness, but that it would be as much to the interest of the public as to that of the medical profession.

Were the conditions different in this country, it might be well to consider the advisability of imitating the Prussian example by urging the setting up of a Department of the Government to deal with medical affairs. But we have to face matters as they are and not as we would wish them to be, and we must ask ourselves whether there is any chance of the institution of a Governmental Department with a Secretary of State who must be a member of the medical profession. Some other method would have to be followed if the establishment of courts of honour, partly medical and partly legal, were deemed desirable. Local courts could be organized by the existing machinery of the Divisions of the British Medical Association. The Divisions could elect representatives to sit on the court, and the Crown could appoint the legal member, if the Prussian plan were adopted. Were this plan followed the essential factor might be found to lie in the power of the courts of honour to compel witnesses to attend the court on being served with a summons, and to give evidence on oath. Much consideration would be needed in deciding on the constitution of the court of appeal and in determining what powers should be retained by the General Medical Council, and with what powers the court of appeal should be endowed.

Many modifications of the Prussian system would no doubt be found advisable if the Association were to take up this matter and consider the best and most practical solution of a very difficult problem. Several auxiliary means could be suggested, including the appointment of medical assessors, which has already been referred to, and the somewhat complicated system in vogue in Germany of first, second, and final assessors. The task would no doubt be difficult, and it would be foolish to attempt to minimize the difficulties at the outset; but the difficulties which the members of the profession in Germany had to face were probably neither greater nor less, and the character of the changes brought about not less radical. What has been done elsewhere could surely be done at home. The condition for success is unity and strong determination.

SCIENCE NOTES.

At a meeting of the Royal Society on January 26th Dr. G. C. Simpson and Mr. C. S. Wright reported the results of observations on atmospheric electricity over the ocean which they had made on the voyage from England to New Zealand in the antarctic ship, *Terra Nova*. One of the points noted was that the quantities of radio-active products found in the air is decidedly less at sea than on land; a specially low value both north and south of the equator was found in latitudes from 30° to 40°. This is ascribed to the fact that the air in these latitudes is supplied by pure air descending from the upper parts of the atmosphere, while it is mainly the air which has passed over land which carries radio-active products with it. These observers also found that the ionization over the sea was smaller than over land.

Four papers published recently by Drs. Berry and Robertson and Mr. Stuart Cross[1] have more than one merit in common. In his study of 100 Australian Aborginal Crania, Dr. Robertson concludes that, while the Australians are not so homogeneous as certain supposed homogeneous series, they are less heterogeneous than some other races. The inter-relationship of their cranial measurements is found to be low, but higher than that found in most modern races. The conclusion of a comparative study of Tasmanian, Australian, and Papuan skulls by Drs. Berry and Robertson and Mr. Cross is expressed in the following terms: "We do not definitely state that the Australian is a dual type; we merely maintain that biometrical investigation proves that the Tasmanian is the purest of the three racial types here compared, the Papuan is the least pure, and the Australian is about midway between the two; this, however, is evidence which those ethnologists who maintain the duality of the Australian aboriginal will doubtless welcome and make the most of it. Apparently it is one more link in the chain of evidence concerning the heterogeneity of the Australian as contrasted with the homogeneity of the Tasmanian." An elaborate investigation of fifty-two Tasmanian skulls, twenty-seven measurements having been made upon each cranium, leads Drs. Berry and Robertson to think that, while among modern races the Tasmanian stands next to *Homo fossilis*, he has morphologically progressed a very long way from *Homo primigenius* and the anthropoid apes. They are not at present prepared to assign definitely the position of the Australian aboriginal with respect to the Tasmanian, but are disposed to think that the former is on the positive side. The last paper of the series, by Mr. K. Stuart Cross, is an inquiry into the importance of various craniometric characters as criteria of evolutionary rank, and offers a very ingenious method of assigning proper weight to each measure. The matters raised in this paper deserve further attention, the question being evidently one of much importance to craniologists. The principle of correlating grades or ranks which is involved is one demanding great caution in its employment, since fallacies easily occur. We do not, of course, mean to suggest that Mr. Cross's method is incorrect, but merely that the subject is too technical for extended notice in these columns. These four papers conform to a high standard of scientific method, and reflect great credit upon their authors.

Apart from its surgical possibilities, the grafting of complex organs and tissues is a matter of much interest. The effect which transplanted organs exert upon the general metabolism or upon special functions, and the changes which supervene in the grafts themselves have thrown light upon not a few obscure problems. The results, however, are still very conflicting. A series of researches, relating chiefly to the sexual organs, were carried out during the past year by C. C. Guthrie, and although not particularly novel or conclusive, they may be worth mentioning. In some of his experiments he fixed pieces of ovaries or testes under the skin or in the peritoneal cavity of fowls. When near blood vessels, ovarian tissue grew quite well in chickens, while testicular tissue was found to develop sperms. When exchanged between the sexes, no definite results were obtained. Removal of the ovaries, as is well known, tends to induce secondary masculine characters, but when other ovaries are grafted in their place, such characters do not appear except when the grafts degenerate. Guthrie instances a striking case in which transplanted ovaries degenerated, and the hen developed male characters very rapidly, showing in a short time the cock's comb, wattles, long hackle, and tail feathers, as well as the spurs, and its behaviour was that of a male; it fought with the cocks and was attracted by the hens. In another experiment he removed the ovaries from a young guinea-pig, and grafted in the same animal one of the ovaries from its sister. The ovary functioned, and the guinea-pig gave birth to two young.

La Nature furnishes an interesting summary of the most important work in anthropology during the past year. Pride of place is given to Frazer's well-known book on *Totemism* and to Lévy-Bruhl's *Fonctions mentales dans les sociétés inférieures*. The latter has sought to illustrate the permanent laws of thought in primitive races by reference to their customs and beliefs, and he has succeeded in presenting a picture of their whole mental life, and to some extent their material life as well, which is probably the most important effort of the last thirty years, since, in fact, Tylor's *Primitive Civilization*. Comparison of these two works gives us, indeed, a very good idea of the increase in our knowledge on this subject. The significance and importance of Frazer's gigantic work has been widely appreciated. Totemism is undoubtedly one of the greatest ethnographical discoveries of the present time on account of the light which it has shed on the origin of numerous institutions, and in particular on the birth of the idea of family. In regard to palaeontology the year has not been particularly rich. No new discovery has been unearthed, but, on the other hand, the results of the preceding years have been added to and elaborated. The discovery, however, of a second skeleton at Ferrassie, and Boule's work on the Chapelle-aux-Saints man have been of considerable importance, and have done much to increase and substantiate our knowledge of the earliest race in Europe—the Neanderthal. From an examination of the cranium of the Chapelle-aux-Saints man and a consideration of its capacity, Boule has come to the conclusion that the Neanderthal race was of a decidedly low type. He has at the same time attempted, somewhat ingeniously, to reconstruct the configuration of the brain, and to deduce from that some idea of the mental ability of the primitive race. He suggests, for instance, that if the old theory of cerebral localization be admitted, the Neanderthal was a man of few words. Possibly he was almost inarticulate and prone to gesture, like many of the primitive races at the present day. The brain shows an irregularity in the development of the two hemispheres, the left being larger than the right. This is a feature of the modern brain, and is supposed to be associated with right-handedness, so that we may conclude that even at that early period man had ceased to be ambidextrous. From other evidence the existence of a certain complexity of sentiments and religious ideas is conjectured. With regard to ethnography, from the nature of the subject it is impossible to characterize succinctly the progress in any one year. The study of living races is a slow and steady progression, to which novel and startling discoveries are altogether foreign. The most important contributions are probably those dealing with Australia. The discovery of the New Guinea pigmies, of which a good deal was made in the English press, is really of no very far-reaching importance. The theory that such races are the survivors of particularly primitive types has long been exploded. In archaeology the discoveries have also been few. The Pelliot expedition to Turkestan, however, shows signs of great promise, and will probably throw invaluable light on the history of Buddhism in Northern India and Central Asia, as well as on the march of religion and civilization towards the West.

[1] (1) "Craniological Observations on the Lengths, Breadths, and Heights of a Hundred Australian Aboriginal Crania." By A. W. D. Robertson, M.D. (2) "A Biometric Study of the Relative Degree of Purity of Race of the Tasmanian, Australian, and Papuan." By R. J. A. Berry, M.D., A. W. D. Robertson, M.D., and K Stuart Cross, M.Sc. (3) "The Place in Nature of the Tasmanian Aboriginal as Deduced from a Study of his Calvarium." By R. J. A. Berry and A. W. D. Robertson. (4) "On a Numerical Determination of the Relative Position of Certain Biological Types in the Evolutionary Scale, and of the Relative Values of Various Cranial Measurements and Indices as Criteria." By K. Stuart Cross. (*Proc. Royal Soc. Edinburgh*, XXXI, 1910, pp. 1 to 84.)

THE LONDON HUNTERIAN FESTIVAL.

THE Hunterian Festival was celebrated by the Royal College of Surgeons of England on February 14th. The Hunterian Oration, published elsewhere in this issue, was delivered by Mr. Edmund Owen in the afternoon, and, as is the custom every second year, the President and Council entertained a large number of guests at dinner in the evening. The dinner was held in the library, and the President, Mr. BUTLIN, was in the chair. Amongst the guests present were the Lord Mayor of London, Viscount Goschen, Lord Sandhurst, Lord Blyth, Lord Ilkeston, Lord Leconfield, the Bishop of Bristol, Sir Schomberg McDonnell, Sir Herbert Maxwell, Mr. Walter Long, M.P., the Medical Director of the Royal Navy (Sir James Porter, K.C.B.), the Director-General of the Army Medical Service (Surgeon-General W. L. Gubbins, C.B.); the Presidents of the Royal Institute and the Royal Society of Painters in Water Colours, of the Royal Institute of British Artists, and of the Royal Society of Medicine; the Sheriffs of the City of London, the Governor of the Bank of England, the Treasurers of Lincoln's Inn and Gray's Inn, and the Masters of the Companies of Clothworkers, Armourers and Braziers, Grocers, Salters, and Leathersellers.

After the usual loyal toasts had been duly honoured, and the memory of John Hunter had been drunk in silence, the PRESIDENT proposed the toast of the Visitors, which he coupled with the name of the Lord Mayor, recalling the fact that when the surgeons separated from the barbers it was to form the corporation of surgeons, with its master and court of assistants and its dwelling place in the Old Bailey. He thought their City guests, particularly the Masters of the City Corporations who honoured the College with their presence, would like to know whether the College maintained the traditions of the Corporations—in fact, how the College disposed of its revenues. The College rarely appeared in lists of donations or subscriptions. It had been suggested to him that the Council of the College spent the money on themselves, and that he, the President, received an income of £5,000 a year! He only wished it were so. But he was sorry to say that no salary was attached to the offices of president, vice-president, or member of the Council. There were no pensions or sinecure offices, no almshouses for decayed members of the Council, no schools for the education of their children. Even the hospitalities of the College were very limited—a dinner once in two years, or, at most, one dinner a year. But the Council was going to show its guests that night the way in which it spent its income. The museum had been specially lighted for the purpose. It had been in their possession for about 110 years, and it had been computed by those who compiled the guide-book for the British Medical Association last summer that it had cost the College more than £500,000. He could not say certainly if this were so, because, although the accounts of the museum were separately kept, no charge had been made on it towards the secretarial department and general up-keep of the College; but he knew that the College had spent out of its own money more than £100,000 for buildings alone, and he thought the estimate was probably not exaggerated. It might be said that, after all, the museum was the property of the College, and it was not a matter of interest to the outside world whether it cost much or little. That was not the case. The museum did not belong to the College. It was a national museum, and he doubted whether there was any similar instance of a national museum being kept and paid for by a private body like the College of Surgeons. The history of the museum was that it had been collected in the course of thirty or more years by Mr. Hunter, who declared that he had spent £70,000 upon the 13,000 specimens of which it consisted. At his death, in 1793, it was the only property he left to his widow and her two children. It was offered to the nation, but Mr. Pitt was advised not to purchase it, as it was not of national interest. Six years later, just as it was on the point of being dispersed and sold bit by bit, Lord Auckland and some other distinguished persons persuaded the Government to buy it for £16,000. When they had done so, Mr. Pitt did not know what to do with it, and offered it on trust to the Corporation of Surgeons. On their acceptance of the trust a sum of £15,000 was provided by the Government to house it. In the last 110 years the Government had furnished altogether just over £57,000 for assistance in building fresh accommodation. But the College had provided nearly twice as much for that object, and had maintained and enlarged the museum entirely at its own expense. Yet, it still remained a national museum, guarded by thirty-one Hunterian trustees, many of whom were trustees by virtue of their office, as the Lord Chancellor, the Prime Minister, the Speaker of the House of Commons, the Ministers of the Navy and the Army, and others. The trustees meet regularly every three months, and visited the museum when they would. The Council of the College was only represented among the trustees by the President. So strict were the regulations that they were not permitted to destroy or remove a single Hunterian specimen without the approval of the trustees. In spite of this there was nothing connected with the College in which the Council took greater pride or on which they more willingly spent time and money than the museum. It now consisted of a vast number of specimens, and was undoubtedly by far the most splendid museum of its kind in the world. Only last year one collection of more than 5,000 specimens was added to it by the Royal Society of Medicine (the Odontological Section). The museum was largely used. There were over 1,000 attendances every month.

In response, Sir VEZEY STRONG referred to the early connexion of the Company of Surgeons with the City guilds, and said that the City was proud of its offspring.

The toast of the Hunterian Orator was given by Lord ILKESTON, who, glancing through the list of the Hunterian orators, singled out the names of Hilton and Sir James Paget as those whose teachings had had a special influence upon his own attitude towards medicine. From the one he learnt lessons as to the value of rest which had contributed largely to his own success as a physician, while the teachings of the other had impressed the importance of a broad study of pathology to every one who would follow the career of medicine. Mr. EDMUND OWEN, in reply, expressed his thanks to Lord Ilkeston and to the College.

LITERARY NOTES.

THE University of London Press has been established for the purpose of doing all the printing and publishing work of the university, and of carrying on the general business of printers and publishers. The Senate of the university has arranged that the first profits of the press shall be charged with the building up of a reserve fund for the purpose of producing books, which, in the opinion of the Press Committee of the Senate, ought to be published, although not likely to be commercially profitable. The manager is Mr. W. Moxon Browne, B.A., whose offices are at 27, Maddox Street, W.

In connexion with Mr. Haslam's account of Frère Jaques in his paper on operations on the male bladder, published at p. 347, it may not be out of place to quote Dr. Martin Lister's relation of what he saw of the operations of the friar, to whom he wrongly gives the title "Père." It may be found in that physician's small book entitled, *A Journey to Paris in 1698* (London, 1699). He says:

> Another popular Disease here is the *Stone*; and there are Men well practised in the Cutting for it. There are also two Hospitals, where great numbers are cut yearly, as *La Charite*, and *Hostel-Dieu*, in both of these there are Wired Chests full of Stones cut from Human Bodies; and in the Chest of *La Charite* is one, which exceeds all belief; it was cut from a Monk, who died in the very Operation; it is as big as a Childs Head. It is but the Model or Patern of the Stone which is kept in the Chest; which has this Inscription on it—
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> *Figure et grosseur de la pierre, pesant 51 ounces, qui font trois livres trois ounces, qui a esté tirée dans cet Hospital au mois de Juin 1690, et que l'on conserve dans le couvent de la Charité.*

The author continues:

> But that which I shall here most insist upon is the *new way*, practised by *Pere Jaques*, a Monk. About the 20th of *April* he cut in the *Hostel-Dieu* 10 in less than an hours time: The 3d day after, all were hearty and without pain but one.

He cuts both by the grand and little Appareil; in both he boldly thrusts in a broad Lancet or Stilleto into the middle of the Muscle of the Thigh near the *Anus* till he joins the Catheter or Staff, or the Stone betwixt his Fingers; then he widens the incision of the Blader in proportion to the Stone with a Silver *Oval Hoop;* if that will not do, he thrusts in his 4 fingers, and tears it wider: then with the *Ducks Bill* he draws it out.

I see him cut a second time in the *Hostel-Dieu;* and he performed it upon 9 persons in 3 quarters of an hour, very dexterously. He seemed to venture at all; and put me into some disorder with the cruelty of the Operation; and a stouter *Englishman* than my self. However I visited them all in their Beds, and found them more amazed, than in pain.

Pere Jaques cut also his way in the other Hospital *La Charite*, much about the same time, 11 at twice. Here Monsieur *Marshal*, the best of the Surgeons for this Operation now in *Paris*, harangu'd against him before the Governors, who coldly answered, they would be determined by the Event, which way was best.

> *Atque hac ratione Foeminis Calculi omnium facillimè exciduntur; nempe scalpello intra vaginam uteri in vesicam adacto.*

Of those cut in *La Charite* one died; and being dissected it was found he had his Bladder pierced in 4 or 5 places; also the *Musculus Psous* sadly mangled; also the left *Vesiculae Seminales* cut.

Notwithstanding this, if this Method was well executed by a Skilful Hand, it might be of good use to Mankind.

This way of Cutting for the Stone, puts me in mind of what I formerly writ and publisht in the *Phil. Transactions* about Cutting above the *Os Pubis*, in the Fund of the Bladder.

Also of that Experiment of Cutting for the Stone of an Alderman of *Doncaster* in the *Gluteus Major*, he was twice cut in the same place, and out-lived both. I saw the first Stone, which was very large, and in some measure transparent, Crystal like. This Experiment is Printed in Dr. *Willies Scarborough Spaw*, 14 years ago at least, and is a fair hint for this new Method.

Frère Jaques, though upheld by no less a person than Fagon, the Chief Physician to Louis XIV, made enemies among the surgeons. Dr. Lister says:

Since my return I had a Letter from Mr. *Probie*, a very Learned and Industrious young Gentleman, who was with me to see the Operation, that part relating to this Matter I shall here transcribe. Indeed, I mightily longed for an Account of this Matter, the success of which I came away too soon to learn any thing for certain.

Lister proceeds to give an extract from Probie's letter, which is dated Paris, Aug. 2, '98:

Pere Jaque's Reputation mightily slackens, out of Forty-five that he cut at the Hostel-Dieu, but sixteen of them survive; and of Nineteen in the Charite, but eleven. He has practised at the Hospitals at Lyons, but, 'tis said, with worse success than at Paris. I am sensible he has got abundance of Enemies, which makes me very often question what I may hear said of him. Dr. Fagon, the Kings Physician, told Dr. Turnfort [Tournefort], when he went to present his Book to him, that he had cut Seven at Versailles, and that six of them are alive, and as well as if never cut. The Person that died was so Distempered, that he was not expected to live, and 'twas thought, if he had not been cut, he had not lived so long: The Surgeons have a great mind to cry down the Man, though they practise his Method. For Marshal has since cut after Pere Jaque's Manner, only with this difference, that Marshal's Catheter was cannulated. Le Rue, the second Surgeon of the Charity Hospital, cut after the old Manner, at the same time when Marshal cut Pere Jaque's way, but had not so good success as Marshal had; for all that Marshal cut are alive and very well, whereas the other lost one or two of his number; besides, those that lived were not so soon cur'd, no, not by a month or six weeks.

Sir Sidney Colvin, Keeper of Prints and Drawings at the British Museum, delivered an extremely interesting lecture on Robert Louis Stevenson at the Royal Institution on the evening of Friday, February 10th. He spoke as one who had been a personal and even intimate friend of the famous writer, and recounted their first meeting during the summer of 1873, at the house of some relatives of Stevenson's, when Colvin, the elder man, fell completely under the spell of the brilliant youth whose wonderful talk was unlike anything he had heard before or since. At this time Stevenson was still undecided as to his future career, full of doubt as to his own powers and capacities, and Sir Sidney Colvin was able to be of some use to him in introducing him to editors, and giving him a start in the profession he was to pursue with such signal success. It was a favourite question at the present day, the lecturer remarked, to ask, when a popular author died, if his works would live. With regard to Stevenson this question was answered by the fact that seventeen years after his death so large an audience was gathered together to listen to the words of one who had known him personally. Stevenson's popularity was actually on the increase, and he was read by the present generation with as much enthusiasm as by his contemporaries, a proof of which was to be found in the fact that the number of letters received by Sir Sidney Colvin on account of his friendship with the dead author from the latter's admirers grew greater year by year. It was not too much to say that Stevenson bid fair to become not only an English classic, but one of the best loved and best read of all our classics. This was due, not to the pre-eminent quality of one or two of his creations, but to the extraordinary variety and charm possessed by works of such widely different kinds. His invention and construction might be open to criticism, but in character drawing he was supreme and would remain so. His characters were remarkable for their wonderful fidelity to life—indeed, in this respect he occasionally excelled even Scott (who would have been the first to acknowledge the fact), for James More and Allan Breck are truer to nature than many of the latter's Highlanders, who, in Sir Sidney's opinion, smacked somewhat of the footlights. Moreover, Stevenson's books bore on them the impress of his own personality, and that was one of the most inspiriting on record. By nature he was not only one of the most original but one of the most lovable of men, and his fine nature, his courage, his hatred of all meanness and pettiness, shine through his writings and form one of their chief beauties.

In connexion with Stevenson, we take pleasure in recalling the fact that on his mother's side he was nearly related to a distinguished physician—Dr. George Balfour—and no man has written more sympathetically about doctors. The Dedication to *Underwoods* has been quoted before, but it cannot be quoted too often. It may not be out of place to repeat it here:

> There are men and classes of men that stand above the common herd: the soldier, the sailor, and the shepherd not unfrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practise an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and, what are more important, Heraclean cheerfulness and courage. So it is that he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing. Gratitude is but a lame sentiment; thanks, when they are expressed, are often more embarrassing than welcome; and yet I must set forth mine to a few out of many doctors who have brought me comfort and help: to Dr. Willey of San Francisco, whose kindness to a stranger it must be as grateful to him, as it is touching to me, to remember; to Dr. Karl Ruedi of Davos, the good genius of the English in his frosty mountains; to Dr. Herbert of Paris, whom I knew only for a week, and to Dr. Caissot of Montpellier, whom I knew only for ten days, and who have yet written their names deeply in my memory; to Dr. Brandt of Royat; to Dr. Wakefield of Nice; to Dr. Chepmell, whose visits make it a pleasure to be ill; to Dr. Horace Dobell, so wise in counsel; to Sir Andrew Clark, so unwearied in kindness; and to that wise youth, my uncle, Dr. Balfour.
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> I forget as many as I remember; and I ask both to pardon me, these for silence, those for inadequate speech. But one name I have kept on purpose to the last, because it is a household word with me, and because if I had not received favours from so many hands and in so many quarters of the world, it should have stood upon this page alone: that of my friend Thomas Bodley Scott of Bournemouth. Will he accept this, although shared among so many, for a dedication to himself? and when next my ill-fortune (which has thus its pleasant side) brings him hurrying to me when he would fain sit down to meat or lie down to rest, will he care to remember that he takes this trouble for one who is not fool enough to be ungrateful?

This tribute has, as far as we know, only one parallel in literature. That is all the more precious as it comes from a source from which one would hardly have expected such an utterance—Thomas Carlyle, who wrote to a member of the profession to the effect that whatever might be the case as regards other sorts and conditions of men, doctors had the satisfaction of knowing that they were doing a good work. It may not be uninteresting to some of our readers to learn that there is a tradition that it was from John Hunter's house and museum in Leicester Square that Stevenson drew his picture of the dwelling and surroundings in which he lodged his Dr. Jekyll. The premises, which were on the east side of the square, just south of the Alhambra, were pulled down some years ago.

British Medical Journal.

SATURDAY, FEBRUARY 18TH, 1911.

THE HUNTERIAN ORATION.

IT is difficult to say anything new about John Hunter's work at this time of day. Mr. Edmund Owen, whose oration is published at page 341, was therefore happily inspired when he decided to speak of the founder of the famous museum in Lincoln's Inn Fields as a man. For Hunter, though ranked with the immortals intellectually, had a very human side to his character. He had, in the interest of his brother William's dissecting room, to mingle freely with resurrection men, who, even in the days of Astley Cooper, were among the vilest of the people. John Hunter, although toiling with unremitting tenacity of purpose in the dissecting room and the hospital, took his pleasure outside the sphere of his work with all the freedom of his day, which tolerated coarseness that would have been too much even for the not very squeamish moral stomach of Bob Sawyer.

"Jack Hunter," as he was known to his boon companions, was fond of the theatre, where, seated among the "gods," he took a particular delight in helping to damn plays. We cannot suppose that his literary taste was very refined; it may therefore be conjectured that his high spirits found vent in the hisses and cat-calls with which an unlucky author was wont to be assailed in the eighteenth century. Not every playwright could take this reprobation with the coolness of Fielding, who when he heard the sounds of condemnation said, with cynical contempt for the audience, "So they have found it out!"

Among Hunter's teachers of surgery was Cheselden. It is curious, as showing how the surgical profession stood in the estimation of the public at that time, that when Pope in a well-known line referred to Cheselden, Swift asked who the person was whose name was thus enshrined. When Cheselden died Hunter found a new Gamaliel in Percivall Pott, whose name was afterwards mixed up in one of the anatomical quarrels in which the Hunters were engaged.

The best side of John Hunter comes out in his relations with Edward Jenner, who was his house pupil for two years, and with whom he kept up an active correspondence till within a few weeks of his death. The letters breathe the very spirit of the investigator who has taken the knowledge of all living things for his province. Hunter is for ever urging Jenner to find material for his insatiable curiosity, and for the museum of which he was laying the foundations. "Send me everything you can get," he writes, "either animals, vegetable or mineral, and the compound of the two, either animal or vegetable mineralized." Nothing came amiss to Hunter, from a whale to a bat. When Jenner is jilted by a lady on whom he had set his affections, Hunter consoles him in characteristic fashion: "Let her go and never mind her; I shall employ you with hedgehogs." This is a remedy for love which Ovid has not included in the methods of cure for the tender passion which he enumerates.

Hunter was absorbed in his work, and spent his substance on his museum. Till the later years of his life, when he was at the head of his profession, he came unwillingly to his consulting-room, sometimes it is said with the marks of the dissecting-room upon upon him. A characteristic story is that on one occasion, on being called away from his researches to a patient, he said, "Well, Lynn, I must go and earn this damned guinea, or I shall be sure to want it to-morrow." He died a poor man, and had not Parliament bought his collection, he would have left his widow penniless. As it was, she had to take a situation for a time as companion to the daughters of a benevolent old physician whom Hunter once irreverently styled "Tom Fool."

It is worthy of mention, as it is perhaps not generally understood, that the museum does not belong to the College of Surgeons but to the nation. The College is only its custodian. But with a public spirit which does it infinite credit the College has lavished money on the museum as if it were its very own. Indeed, it has done far more to keep it up and enlarge it than has been done by the nation, of which it is one of the noblest and most useful possessions. It may be doubted, as Mr. Butlin said in his speech at the Hunterian Festival, whether there is any other example of what is really a national monument being preserved by the liberality of a private body.

A particularly interesting part of Mr. Owen's Oration is that in which he deals with Hunter's ill health. In 1773 he had the first attack of angina pectoris, which was followed by many others during the twenty years of subsequent life. Towards the end they increased in frequency so much as to be almost of daily occurrence. He used himself to say that his life was in the hands of any rascal who chose to put him in a rage. Yet throughout the slow wreck of his constitution he never gave up work. He taught, although he disliked speaking in public so much that he had to nerve himself for the effort by taking thirty drops of laudanum before the first lecture of his course. He worked in his dissecting-room from six in the morning till nine. After seeing patients all the forenoon he dined at four, and, after an hour's sleep, spent the evening in preparing or delivering lectures, and in dictating, prolonging his work till one or two in the morning. He had no taste for society, though it is on record that he broke his tendo Achillis in dancing. As Mr. Owen points out, there is no mention in his letters of sport or pastime, but we do not think it is quite accurate to say that Hunter had no interests outside his profession. In not a few of his letters to Jenner appreciative mention is made of pictures.

Mr. Owen makes the interesting suggestion that Hunter's ill-health was primarily due to a vivisectional experiment made upon himself by the inoculation of syphilis. He was then in his fortieth year, and the experiment lasted three years. Mr. Owen thinks there can be little doubt that the progressive arterial degeneration of which he was the subject was greatly, if not altogether, due to the self-inflicted disease from which he never fully recovered. Jenner, writing to Heberden in 1778, expresses the opinion that Hunter was the subject of angina pectoris. He says that in two cases in which he had the opportunity of making an examination of the body after death from that disease, the coronary artery appeared thickened. In one which he examined with Mr. Paytherus, a surgeon of Ross in Herefordshire, it was found that what he had taken to be an ossification of the vessel itself,

was "a kind of firm fleshy tube, formed within the vessel, with a considerable quantity of ossific matter dispersed irregularly through it." Jenner did not communicate his suspicion to Hunter lest it should "deprive him of the hopes of a recovery." Writing to Jenner after the death of Hunter, his brother-in-law Everard Home says: "It is singular that the circumstance you mention to me, and was always afraid to touch upon with Mr. Hunter, should have been a particular part of his own complaint as the coronary arteries of the heart were considerably ossified." Home adds, "This case is very much in favour of your theory." Whatever may have been the cause of his ill health, it is certain that much of the ill temper and proneness to quarrel which made him a difficult colleague must be attributed to his physical condition. He did not suffer fools gladly, but, with all his occasional roughness, he was a fast friend, and was beloved by those who knew him well, and Jenner, to the end of his life, always referred to him as the "dear man." The tenderness which he sought to hide under an apparently casual reference to the death of his brother, with whom he had quarrelled so bitterly, is more affecting than all the sentimentalism of Sterne.

Mr. Owen has paid a worthy tribute to one of the greatest men of whom his country or the medical profession from the beginning of time can boast. With a few broad masterly touches he has painted a word picture of a man as living as Reynolds's famous portrait which is among the treasures of the Royal College of Surgeons of England.

THE TREATMENT OF YAWS BY SALVARSAN.

SINCE we have learned from Castellani, Schuffner, and others that yaws or framboesia is due to a specific spirochaete which presents practically all the morphological and tinctorial characteristics of the syphilitic spirochaete, it is hardly surprising to learn that this disease can be successfully treated by injections of salvarsan (dioxy-diamido-arsenobenzol). We print on another page of this issue a paper by Dr. Alston of Trinidad on this subject. The improvement which followed the injection of the drug emulsified in sterile olive oil in Dr. Alston's cases corresponds to that obtained by Strong,[1] who has recently reported the results of the treatment of 25 cases of yaws with dioxy-diamido-arsenobenzol. Three or four days after the injection of the drug the granulomatous lesions began to disappear, and in the course of from ten to twenty days they had usually disappeared entirely, leaving a perfectly smooth, pigmented skin where the lesions previously existed. Tumour masses were quickly absorbed, and even large granulomatous masses or deep ulcerations healed within from two to four weeks. None of the cases had shown any signs of relapse up to last October (1910), even although they received only a single injection and over four months had elapsed since most of them were inoculated. In severe cases, however, Strong believes that a second injection may be of advantage. From the success of the treatment he concludes that salvarsan is as important a specific for yaws as quinine is for malaria.

Dr. Alston has made some highly interesting and important experiments with regard to the formation of antibody. He found that the serum of his patients after treatment with salvarsan was capable of producing an improvement in other cases of yaws not less marked than that produced by the drug itself, and further that the serum of the patients who had been treated with serum possessed the same property. The control experiments show that the essentials are, first, that the serum must be derived from a patient who is suffering from yaws, and secondly, that the serum must be taken when the patient is under the influence of salvarsan. He suggests that the action may be due to the presence of a ferment, in view of the enormous dilution which the active substance undergoes in passing through the two patients.

This view he puts forward after showing experimentally that it does not rest on the fixation of complement by the antibody. According to Ehrlich, the action of salvarsan on spirochaetes is direct, the curative process being due to the liberation of the specific proteins, which give rise to a specific antibody. The cases of congenital syphilis which were treated by salvarsan and died of endotoxaemia, as well as the clinical cure in Taege's cases in which the infant was treated by means of the mother's milk, in which no arsenic was present, suggest that an injection of this drug in an organism infected by spirochaetes may result in the breaking down of a number of parasites. The protein thus liberated will stimulate the production of a reaction product, or antibody, just as in the phenomenon of anaphylaxis the introduction of a protein induces its corresponding antibody to be formed. The serum of the person treated will contain sufficient free antibody to combine with the protein of the spirochaetes in a second subject. In anaphylaxis, the injection of the serum of a hypersensitive animal into a normal animal will render the second animal hypersensitive. Dr. Alston found that the serum was not robbed of its power by boiling; this would indicate that the amboceptor is thermostabile, and, when it comes into contact with fresh complement, should be as active as before. The same applies with regard to the anaphylaxis experiment. In the case of yaws the process can be carried further, and the identical action can be obtained in a third subject. The explanation would seem to be that the action of the antibody on the spirochaetes in the second will result in the liberation of more specific protein and the formation of more antibody. In the case of the anaphylactic rabbit or guinea-pig, the action stops at the second animal, unless the specific protein is introduced simultaneously with the anaphylactizing serum. We would therefore expect that when Dr. Alston carries out the experiment of treating young children suffering from yaws with the milk of goats injected with salvarsan, he will find that no action results, but that the proposed treatment with the serum of horses treated with material containing spirochaetes and subsequently injected with salvarsan will be efficacious. Dr. Alston expresses surprise that the effect should be obtained in the "second generation," because, whether it is due to the drug or to the antibody, the dilution must be very great. Direct action of the drug seems to be excluded, not only by the great dilution, but also by the fact that the diamido-dioxy-arsenobenzol, which is not fixed by the spirochaetes or tissue cells, will be rapidly excreted by the kidneys. On the other hand, there need be no dilution of the antibody in the ordinary sense, since when a reaction-product of a protein is introduced into the body the action goes on under the influence of the ferment action of the complement, and the quantity is, therefore, scarcely material.

[1] *The Philippine Journal of Science*, vol. v, October, 1910, No.

THE LIVERPOOL ABATTOIR MUDDLE.

LIVERPOOL still presents to the country an object lesson from which much may be learnt with regard to the need of supervision and forethought in communities where a rapid growth of population is taking place. At the beginning of the nineteenth century the population of the great port on the estuary of the Mersey was under 100,000. Since that time almost every decennial census has seen a growth of about 60,000 except in the ten years 1880–90, when a decrease, due to the population flowing from the centre to the outskirts, was recorded. The municipal boundaries were extended in 1895, and the numerical growth has since continued. At present the city has in its centre a large abattoir worked by a company. This trade and the allied trades which have grown up with it have occupied premises leased from the city. Some years ago application was made for a renewal of the lease; but, owing largely to the protests of the medical profession, headed by the medical officer of health, a special committee of the City Council recommended that it should be refused. It has long been felt that these trades should not remain in the heart of a city, and are most undesirable neighbours for hospitals, universities, and large hotels. The effect of the trades on the health of the district was made years ago the subject of an investigation, and the report was absolutely against their continuance. At the present day the direct effect might be more difficult to prove, as the population is now not so much residential as business, and the number of animals slaughtered has diminished. There can be no doubt that even a number of cattle small as compared with the dead meat sold has an effect on health, since the animals are driven through the streets and kept in lairs before slaughtering, and the trades necessary for the disposal of hides, bones, blood and offal, even when conducted on a small scale, are offensive and totally out of place in populous neighbourhoods. On the Continent public abattoirs in most of the great towns form part of an establishment to which a very extensive acreage of land is devoted, a much larger space than has been allowed in any of our English towns. Our Liverpool correspondent states elsewhere that when the matter came before a plenary session of the City Council the advice given by the special committee and the medical officer of health was rejected by a large majority, in spite of the advocacy of the leaders of the two political parties. The adoption of the rejected scheme would have rendered it possible to close all the private slaughterhouses in Liverpool, which number twenty-four, scattered through different districts; the districts vary in the density of their population, but the effect of this closure would undoubtedly have been beneficial in all of them. The arguments used in opposing the transfer to the larger site were unsound. The statement, for instance, that the dead meat would be contaminated by smoke and effluvium from trades which are carried on several hundred yards from the proposed site for meat storage, and which in themselves are not any more noxious than the processes and trades connected with abattoirs, can hardly be considered valid. The proposed new site has possibilities of expansion over about 13 acres of land, affording an approach from the docks and access to several lines of rail by which live animals and dead meat could be collected and dispersed. A great point has been made of the lack of grazing ground in the vicinity, but no weight can be attached to this argument when applied to any great centre of population, where all animals that must be kept for slaughter must necessarily be retained in lairages. Liverpool has been over and over again guilty of a short-sighted sacrifice of the ultimate good of the community to the supposed interests of a small section. Few of our large towns have so floating a population, and very few families, it is said, remain for more than three generations in the place, where they settle with the one object of making money. To these causes must be attributed the high death-rate of Liverpool, for the site of the city is naturally healthy, on a wind-swept estuary, with sandstone rocks sloping to the river underlying the greater part of it. More than one-third of the working classes used to live in cellars and back-to-back dwellings, and these conditions have not even yet disappeared, though the present generation has spent large sums in demolishing such places and substituting reasonably healthy houses. In the matter of provision of water supply, of schools, in the regulation of sanitary measures relating to closets, bakehouses, dairies, and shippons, the suppression of smoke, the control of offensive trades, and many other matters, Liverpool has blundered and muddled, and been an example of how not to do it. It has owed and still owes much to its medical officers of health; they have been backed up by the profession, which is more far-sighted in these matters than the general public. It is to be hoped that it is not too late for one more mistake to be avoided, and that the slaughtering of cattle and the allied trades, which must necessarily entail many difficulties in air and soil sanitation, shall be established in a suitable site away from the busy centre of the city.

THE HULTON COLLIERY EXPLOSION.

AT the opening of the prolonged inquest in respect of the Hulton pit explosion, the county coroner, Mr. S. F. Butcher, paid a tribute to the heroism displayed by those connected with the colliery, men of all ranks from other collieries, and by the inspector of mines and his assistants in the hazardous task of suppressing fire in the pit. Their labour, he said, was shared by members of the great profession of medicine, many of whom participated in the underground risks; from the time of the explosion and well into this year there was never wanting a staff of medical men to give help, and the work done by the voluntary medical staff and their assistants had commanded the highest admiration. The medical staff was assisted by a nursing staff and by a large number of persons who volunteered. It was a great tribute to the care exercised that not a single case of blood poisoning had arisen among those who had worked at the recovery of the dead and the preparation of the bodies for identification. In the course of the inquiry Dr. T. Boston Johnstone, of Annandale, Bolton, reported that at the shaft two squads of ambulance men, four in each squad, were stationed to act as stretcher bearers, and we understand that altogether 400 to 500 ambulance men, members of the R.A.M.C., and boy scouts rendered assistance. Buildings were converted into temporary mortuaries, with a doctor in charge, who when a body arrived placed on record the probable cause of death. When it was considered necessary for sanitary reasons to remove the unidentified for burial they were photographed and a careful record of their characteristics published; in this way many were eventually identified. Dr. W. A. Hatton, who was the first medical man to arrive at the pit, stated that the cause of death in 220 of the 341 bodies recovered was carbon monoxide poisoning; in 54, explosion; death was due to the combined effects of explosion and carbon monoxide poisoning in 61; in addition, 94 died from shock and burns. Dr. Hatton later in the proceedings thanked the coroner on behalf of the medical profession for his kind reference to its work at the pit, and we have much pleasure in endorsing Dr. Hatton's observations.

HAEMOPHILIA.

IN an admirable monograph on haemophilia,[1] recently issued from the "Francis Galton" Laboratory for National Eugenics, the authors, Drs. Bulloch and Fildes, give a critical historical study, and state that the earliest recorded case of haemophilia is one mentioned by Albucasis in the tenth century, though from provisions as to circumcision in the Talmud there is some reason to believe it was known to the Jews in the second century. After a clear summary of the symptoms, the important question of the occurrence of haemophilia in females is considered in detail and with conspicuous fairness. They conclude that there is not any evidence that women suffer from true haemophilia, thus confirming the opinion originally expressed in 1803 by Otto, of Philadelphia, in the contribution which first drew attention to the disease. This conclusion is of interest and importance, but it met with opposition from several speakers, including Professor Osler, when Drs. Bulloch and Fildes read their paper on haemophilia before the Medical Society of London on April 18th, 1910. Another important law, which, like the preceding, is arrived at by critical analysis of the apparent exceptions, is that the disease is transmitted by unaffected females, and not by males. On the interesting problem of the *de novo* origin of the disease, which Sir A. E. Wright suggests may be due to the accidental conjunction of two persons whose blood in each case is in the condition described by him as characteristic of haemophilia, the authors find that the cases supporting this view are comparatively rare, and would be fewer if the pedigrees were more thoroughly investigated. They, however, give a previously unpublished pedigree (No. 603), provided by Dr. H. S. Gettings, in support of this *de novo* origin. The literature of haemophilia consists of 949 monographs and papers, all of which, except six, the authors have either read or had specially abstracted for them by eminent authorities. To each of these references a short summary of the contents of the publication has been appended, thus saving all future investigators the trouble—often exaggerated by erroneous quotation—of looking up the original source. Of the magnitude of this labour and of the value of its result it is difficult to speak too highly. The summaries emphasize the value of the oft-neglected advice, "Verify your references," and expose, not without humour, the slender claim of some quoted cases of haemophilia. Thus, one reputed female "bleeder" was habitually cupped or leeched twice a year by her doctor, with the idea that she had too much blood! The 235 pedigrees which form the basis of this monograph are analysed in detail and beautifully depicted on the plates. In conclusion, medical science can be justly proud of this work, which must remain as the permanent source of reference on the subject.

PUERPERAL ECLAMPSIA AND LACTATION.

MUCH has appeared in print about the medical treatment of puerperal eclampsia and about Edebohls's operation. Dr. Reinhardt of Teschen has quite recently reported a successful case of decapsulation of the kidney.[2] The patient was a primipara, aged 29, who gave birth to a healthy child at term and then had very bad convulsions, with suppression of urine cyanosis, and coma. The operation was followed by immediate improvement and ultimate recovery. But in every case of eclampsia that recovers there is the problem about the rearing of the child when it also is saved. Dr. James R. Goodall of Montreal[3] asks the questions: "If a mother's milk is toxic, why should it be so to her infant which has been nourished through her own blood? Can a mother's milk secrete a concentrated accumulative toxin more virulent than that which circulated in her system?" His conclusions deserve study, but the obstetrician and practitioner will no doubt take more interest in Dr. Goodall's clinical reports of three cases in his own practice. All show that the milk contains a deadly poison, unless some other cause of death was present but overlooked, which seems quite improbable. A woman, aged 35, in well-to-do circumstances and perfect health, gave birth at term—the end of her fourth pregnancy—to a strong and healthy infant. Convulsions set in on the morning of the third day. The infant had taken the breast thoroughly for the first time two hours before the first fit. Both mother and child died. In the second case, the mother, aged 28, unlike the first, where no symptoms were noted before labour, had recently suffered from albuminuria, occipital headache, and epigastric pains. The labour was easy and not lingering; eclampsia set in thirty-two hours after delivery; the fits were sharp and rapid, but the patient ultimately recovered. The infant had been suckled for the first time a few hours before the first attack; six hours later it became cyanosed and ultimately died. The third patient, a strong, healthy woman until her third pregnancy, suffered in the latter months from albuminuria and from the increased bulk of the abdomen due to hydramnion. Labour came on about ten days before the calculated time, the membranes ruptured very early, but there was no delay or difficulty. The patient complained of severe headache and loss of appetite on the second day. There had been distinct symptoms during the second stage of labour; the patient's eyelids twitched, the right side of the face was convulsed, and during two pains the eyes turned to the left and became fixed, and respiration was jerky. The child was seized with cyanosis on the morning of the third day; the mother had felt the milk filling the breasts during the previous night. Dr. Goodall reports in full the symptoms, which were very remarkable; the child was supposed to be dead, but Dr. Goodall, who arrived a few minutes later, found the pulse still perceptible at the wrist. By means of artificial respiration at the fireside, the infant revived for a time, the cyanosis diminishing rapidly, but death followed within half an hour. The cardiac sounds were audible with the stethoscope until close upon death. The mother suffered from albuminuria for long after convalescence from the puerperium, and the urine was not entirely normal until the end of six months. Dr. Goodall insists that these three cases demonstrate that the later the convulsions begin after delivery—that is to say, the nearer to the period of full lactation—the graver will be the prognosis for the infant. Hence, in these cases, most dangerous for the child, where the maternal convulsions come on after delivery, elimination, effected in part by appropriate treatment, should be allowed to go on until the mother is freed from the greater part of her toxaemia. Then the breasts should be emptied before the child is suckled.

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[1] Eugenics Laboratory Memoirs XII. *Treasury of Human Inheritance.* Parts V and VI. Section XIVa: *Haemophilia.* By W. Bulloch, M.D., and Paul Fildes, M.B., B.C. London: Dulau and Co. 1911. (Pp. 197; 17 plates of pedigrees and 1 plate of illustration. 15s.)

[2] Ein durch Nierenentkapselung geheilter Fall von puerperaler Eklampsie, *Zentralbl. f. Gynaek.*, No. 3, 1911, p. 107.

[3] Should Eclamptic Mothers Nurse their Newborn? *Amer. Jour Obstet.*, January, 1911, p. 11.

MODERN MICROSCOPY IN UROLOGY.

THE examination of cellular elements under the microscope forms by itself a chapter in modern pathology. The average clinician, however, is inclined to regard this examination as something cut and dried, and forgets the extraordinary history of its development. We owe thanks to Professor C. Posner for reminding us, in an excellent paper on urinary filaments and casts,[1] that Max Schultze and even Virchow fell into the error of interpreting microscopical appearances without taking into account the limitation of the methods applied. The introduction of modern staining methods led to many new developments, and he refers particularly to the detection of the basal structure of chromatin and the granular points in plasma, with which the names of Strassburger and Flemming and Altmann are associated, and the ingenious application of the various colour reactions in the granules of cells by Ehrlich. The progress achieved by chemical and selective staining does not, in his opinion, lose anything of its importance, when it is recognized that the examination of fresh structures has revealed what could not be seen in fixed and stained specimens. The tendency of to-day to employ the highest powers and the brightest illumination, however, tends, Professor Posner thinks, to impede rather than to promote advance. He finds that a number of auxiliary means are available which will enable the observer to overcome some of the difficulties arising from the limited optical conditions associated with ordinary microscopy. He points out that what he terms a "light" field illumination may fail to reveal some characteristics of structures which a "dark" field illumination immediately brings into view. He also emphasizes the common error of confusing the ultramicroscope of Siedentopf and Zsigmondy with the clinical dark field illumination. While the former can reveal particles in colloidal substances invisible under all other conditions, the latter aims rather at a refined illumination of structures which can be seen, but not properly differentiated, by direct illumination. He pleads for a more extended study of the structure and characters of elements by means of this dark field illumination. He recommends the use of the polarization microscope, which under certain conditions will reveal differences between structures that appear identical under others. The results of photographic reproductions of the elements when subjected to dark field illumination are, he considers, incomparably better than those of ordinary photomicrography. In the second part of his paper, Professor Posner deals with two elements which he has studied by these various means. These are urinary filaments and casts. He recognizes two forms of the former. The thicker, comma or hook-like filaments, are usually associated with suppurative processes, and are derived from the prostatic portion of the urethra, while the long, delicate threads are for the most part mucous. Dark field illumination shows an irregular intermixture of epithelium and leucocytes in a delicate basal substance. The former is usually in excess of the latter. In the second group there is a regular arrangement of leucocytes and epithelium, the former lying in rows. With regard to the casts in urine, the structure, and also the inclusions, such as epithelium, leucocytes, red corpuscles, and crystals, are clearly seen, and the tinging or inclusion of uric acid or blood pigment becomes extraordinarily evident with dark field illumination. Fatty and lipoid substances can only be differentiated by means of the polarization microscope. The presence of a substance which refracts light doubly is of great importance. It not only points to nephritic changes, but to changes so severe as to justify an absolutely unfavourable prognosis. Other diagnostic and prognostic signs may be elicited from the appearance of casts. With regard to the origin of casts, he discusses the various views impartially, and finally comes to the conclusion that they may represent desquamated and degenerate epithelium and also coagulation products of transudations or exudations or secretions of the renal cells. In conclusion, he expresses the opinion that if the dark field microscope is to serve its function well, the investigator must learn to "see well" what is to be seen.

[1] Unna-Festschrift, vol. i. *Dermatologicale Studien*, vol. xx. Hamburg: L. Voss. 1911.

ONCHOCERCIASIS.

REFERENCE has already been made in these columns[1] to the investigation instituted by the Local Government Board on meat imported from Australia infected with *Onchocerca*. An official report[2] on the matter has now been prepared by Drs. MacFadden and Leiper. The former gives an account of the administrative measures which have been taken to cope with the difficulty. When the condition first came under notice it was regarded entirely as a surface affection, which could be easily remedied by removing the superficial portions of the meat in which nodules were observed. Later and more searching examination revealed the fact that nodules were occasionally present in the intermuscular fat, and that the absence of nodules on the surface was no proof of their complete absence. A more rigorous inspection was therefore rendered advisable. At first it was thought that only a relatively small proportion of carcasses were affected, and the meat was allowed to pass when the portions infected with nodules had been removed and destroyed. The frozen condition of the meat rendered inspection in many cases unsatisfactory, as was evidenced by reinspection after thawing. It soon became clear that in order to ensure that the meat allowed to pass was free from parasitic nodules, it would be necessary to thaw out each fore-quarter and subject it to a minute examination, or alternatively to adopt the general principle of removing from the fore-quarter while still frozen those parts, namely, the flanks and briskets, in which the nodules chiefly occurred. Owing to the magnitude of the task the first course was recognized to be impracticable, and accordingly the alternative was adopted, the condemned parts being retained by the sanitary authority in cold store until such time as the owners gave notice that they wished to dispose of them. Then, according as the latter signified their desire to utilize them for food or industrial purposes, they were either thawed out and carefully examined or else treated in such a way as to render them unfit for consumption. This procedure has been in force since October, and has been found to work to the satisfaction of all parties concerned. In the majority of cases the importers have not insisted on the examination of the condemned parts, and have been content to let them be destroyed by the sanitary authority. Dr. Leiper's account of the nature and life-history of the parasite is full and lucid, and contains several points of general importance. The condition was first observed in Australia thirty years ago, but it was not till many years later that it attracted much attention. It was then regarded as peculiar to Australia, but it now appears that the same parasite has been recorded from the Malay States, Java, and India, as well as from the United States of America. This wide distribution may with

[1] BRITISH MEDICAL JOURNAL, December 3rd, 1910, p. 1796.
[2] Reports to the Local Government Board on Public Health and Medical Subjects. New Series, No. 45. 1911. (16 pages, 3 plates.)

advantage be borne in mind in the inspection of meat from countries other than Australia. The peculiar character of the spicules in the male worm is noted, as also their resemblance to those of *Onchocerca volvulus*, and it is suggested that they may be of generic importance. A list is given of the features separating the cattle parasite from the corresponding, but distinct, *O. reticulata* of the horse. In this connexion it should be noted that the female genital aperture of the former is posterior to the oesophagus, not anterior to it, as was inadvertently stated in our earlier note. The reverse is the case in the horse parasite. In regard to the life-history of the worm, Dr. Leiper concludes that a biting insect is almost certainly the intermediate host. How the embryos reach the blood or lymph stream is a difficult problem; it is suggested that possibly the nodules and the connective tissue do not represent the normal habitat of the adult worm, but that they may live in a free and unencapsuled state in some of the viscera, whence they are able to discharge their embryos into the blood stream. This supposition is based on an analogous observation in the case of the horse parasite. In support of this view evidences of degenerative changes in the nodules leading to calcification, are not wanting. It is further suggested that, apart from its unsightliness, the meat may be deteriorated in quality owing to the production of some toxin by the parasite. This, however, is a supposition unsupported by experimental or other data. That the parasite does produce a toxic substance is more than probable; that the latter affects the meat, however, is mere conjecture, and if there were any truth in it, no part of the carcass could safely be considered beyond suspicion. An examination of this point would be interesting, and seems desirable. It is evident that this disease in cattle threatens much loss to Australian producers, and we have no doubt that they will realize the value of a thorough scientific investigation into the whole matter with a view to stamping out the parasite, or at least arresting its spread.

HEAD HUNTERS IN NIGERIA.

A MOST interesting lecture was delivered by Captain A. J. N. Tremaarne before the Royal Society of Arts on the evening of February 8th, on the Kagoro, a head-hunting tribe inhabiting the Nassawara province of Northern Nigeria. Captain Tremaarne, who is a Doctor of Anthropology, was stationed for some time in this part of Africa, and therefore had exceptional opportunities for a close study of his subject; but his pursuit of knowledge was rendered somewhat laborious by the fact that the Kagoro native is unable to concentrate his attention for any length of time, and any attempt at sustained questioning was consequently a matter of some difficulty. Inquiries as to their religious beliefs were practically fruitless for another reason (even though in Captain Tremaarne's case their interlocutor being a white man was looked upon as a "big Juju" and connected with the supernatural), for the Kagoro native who speaks of religion runs the risk of being stoned to death by his brethren. It seems certain, however, that the practice of head-hunting forms part of their religion, and is regarded by them as necessary for the welfare of the tribe. No male is considered to have reached maturity till he has killed an enemy, and the heads of the vanquished are hung outside the house under the thatch, and handed down as heirlooms from father to son. In common with the majority of native races, the Kagoro, men and women alike, disfigure themselves with various markings on the head and body. Both the cheeks and forehead are covered with cuts, and the lips of female children are pierced at a very early age. The women are also obliged to shave their heads, but the masculine portion of the population indulge in elaborate hair-dressings, and combine use with ornament in the adornment of their legs, which, at dances and festivals, they smear up to the knees with red earth. This fashion, besides being considered pleasing to the eye, serves a utilitarian purpose in keeping off insects. A curious detail with regard to the Kagoro is that, unlike most savages, they seldom or never squat on the bare ground, but sit on raised stones or pieces of wood. Although, as a rule, they are very kind to their children, their treatment of such as are idiots or deformed is drastic enough to satisfy the most ardent advocate of the suppression of the unfit. If, after the age of 4 years, an imbecile or crippled child shows no signs of improvement, not only is the father fully justified in throwing it into the river (though he may not actually kill it), but the mother is free to leave her husband and marry someone else (so that there may be no obstacle to her having healthy children): moreover, so long as the afflicted child is in the house nothing can compel her to return home. The lecture, which was copiously illustrated with lantern pictures, was enthusiastically received, special interest being manifested in the quaint examples of Kagoro music, which were charmingly rendered upon the native instruments by the lecturer himself.

MOSQUITOS AND MALARIA.

THE current number of *Biometrika* contains a fascinating paper[1] by Mr. H. Waite on the relation between mosquito prevalence and malaria rates. The paper, indeed, illustrates not only the importance but the great interest of "iatro-mathematical" studies. Those members of our profession who have been wise enough to retain some of the mathematical interests of their nonage are beginning to reap their reward, and we suspect that others will shortly be tempted to disinter *Todhunter* from beneath the books heaped upon the topmost shelves of their libraries. Mr. Waite undertook his work at the suggestion of Professor Ronald Ross, and has used the biological data and assumptions of that distinguished investigator. The author first considers the case of a stable population. If in a certain locality the population is p and there are m cases of malaria, the latter will remain stationary if the number of new cases is equal to the number of recoveries. With a given value of m and p the number of new infections depends on the number of anophelines in the neighbourhood. Hence with the anophelines present in a certain proportion to the human population, the malaria rate is stationary, and if they are present in a greater or less proportion there will be a corresponding increase or decrease in the number of cases. The author then investigates the relation between the number of cases of malaria and the number of anophelines, obtaining an elegant general solution from which values to any degree of approximation can be deduced. The general form of the results, together with particular arithmetical cases which are worked out in detail, lead to the conclusions which we summarize in the author's words: "(1) Given a number of mosquitos greater than that corresponding to the 'stable population value,' the number of malaria cases will tend to increase until a stable population value is reached. (2) Given a number of mosquitos less than that corresponding to the 'stable population value,' the number of malaria cases will tend to decrease until that stable

[1] Mosquitos and Malaria: A Study of the Relation between the Number of Mosquitos in a Locality and the Malaria Rate. By H. Waite, M.A., B.Sc. *Biometrika*, vii, 421.

population value is established. In both cases the number of malaria cases tends to asymptote to the stable value. The amount of malaria does not increase or decrease indefinitely, but tends to attain a definite prevalence. Where the 'stable value' means a large number of malaria cases, the right step seems to be the reduction of the number of mosquitos; on the other hand, where it means a small number of cases it should be possible to segregate and isolate these cases." It is inevitable that during the infancy of a new branch of science those who are familiar with its methods and their development can hardly be good judges of the different kinds of data to which such methods are applied. We have examined Mr. Waite's paper rather from the mathematical than from the medical point of view, and do not feel able to offer an opinion as to the soundness of the biological postulates. Since, however, these postulates have been laid down by the chief authority on malaria investigation in this country, it can hardly be doubted that they represent the best extant information. We have only to congratulate Mr. Waite upon a notable contribution to the science of applied mathematics, using the term without the usual academic restrictions.

AFTER-CARE ASSOCIATION.

THE annual meeting of this association, which has for its objects: (1) The care of poor patients, discharged recovered from asylums for the insane, till convalescence is firmly established; (2) finding them suitable employment when fit for it; and (3) providing clothes, tools, etc., when needed, was held on February 8th, at 25, Cavendish Square, on the kind invitation of Sir Victor and Lady Horsley. Mr. H. D. Greene, K.C., presided over a crowded meeting, and from the point of view of his official experience as an Honorary Commissioner in Lunacy set forth and commended the beneficent work of the society, which he said was indispensable to supplement the asylum treatment of lunatics, as after-care prevented relapses and protected society from the disastrous consequences of an imperfect mental convalescence. His only criticism was that so universally useful a society should make its claims to public support better known; and with this object he would be glad to give financial aid in the matter of judicious advertising. He had pleasure in moving the adoption of the report, which had been previously presented by the Secretary, Mr. H. Thornhill Roxby. The Bishop of Barking, in seconding the motion, referred to personal experiences in visiting large asylums in his own district, especially that at Claybury, where he found patients on the eve of discharge gratefully appreciating the aid which this association had promised to give them. Homes to confirm convalescence were perhaps more needed in cases of mental than of bodily disease. Dr. G. H. Savage, in supporting, said that the association was most useful, but suffered from want of recognition and want of funds. Patients often had to be discharged from asylum care in a mental condition which might be designated sane but not sound. In such cases the After-Care Association stepped in to assure established recovery. Much tact was needful in dealing with such cases, and the executive officers of the society deserved great credit for the personal attention they gave to each. The resolution was supported also by the Rev. Dr. Woods, Master of the Temple, who referred to the loving after-care exercised there in the cases of the poet Cowper and the sister of Charles Lamb, and by Dr. Percy Smith, and unanimously adopted. Dr. Hubert Bond, Dr. Stoddart, and others took part in proposing the re-election of the committee (with the addition of Sir George O'Farrell, M.D., and Dr. Stoddart), and votes of thanks to the chairman and to the host and hostess closed the proceedings. The office of the association is at the Church House, Dean's Yard, Westminster.

THE CORONERS COMMITTEE.

THE third part of the Second Report of the Departmental Committee appointed to inquire into the law relating to coroners and coroners' inquests, and into the practice in coroners' courts, has just been issued. It consists of further evidence and a number of appendices. Dr. William Henry Perkin, F.R.S., Professor of Chemistry in the University of Manchester, gave evidence a second time as to the conditions in which flannelette ignites. He attributes some of the dangers of the substance to the fact that very often the natural moisture of flannelette has been diminished by its having been near a fire, and thus having been, so to speak, artificially treated for the purpose of catching alight. He agreed that the danger of flannelette depends greatly on the closeness of weaving and the length and closeness of the nap. The witness handed in a copy of a bill prepared at the request of himself and Mr. Whipp by Mr. M. J. Riley, providing for the application of tests to all flannelette in regard to resistance to fire. Among the appendices is a report of the examination of the samples of flannelette referred to the Government laboratory by the coroners, with memoranda on the whole subject by Professor Perkin, Mr. Riley, Mr. C. H. Whipp, Mr. S. Bradbury, and criticisms of the evidence given by these witnesses and Mr. Sachs by Mr. A. M. Jones and Mr. W. Heap. Another appendix consists of a report of fire tests with textiles ("Non-flam" flannelette, ordinary flannelette, "Union flannel") carried out by the British Fire Prevention Committee. Another appendix contains the questions addressed to the coroners of England and Wales, with a summary and analysis of the replies received. Another consists of a memorandum presented on behalf of the London County Council by Mr. J. Ollis on the appointment of county coroners, the arrangement of their districts, the provision of coroners' courts, the payment of the salaries and disbursements of coroners, and generally on such matters as arise in connexion with the holding of inquests, and do not appertain to the province of coroner or a department under the Crown. An appendix of special interest is a memorandum presented on behalf of the British Medical Association. This memorandum is in four parts, dealing respectively with death certification and registration; with the law affecting coroners and the procedure of coroners and coroners' courts; with the question of inquiry into deaths during anaesthesia; and with the question of the necessity for inquiry into deaths following surgical operations. Among the remaining appendices is a return for England and Wales of deaths of persons whilst under the influence of anaesthetics which were reported to the coroner during the year 1908. The last appendix is a letter submitted by the Institute of Journalists, giving reasons why the proceedings of coroners' courts should be public "in the same practical and effective manner as the proceedings of the High Court and of other local bodies are public." Some of the points touched upon in the various memoranda published as appendices to the report will be dealt with in later issues of the BRITISH MEDICAL JOURNAL.

AN AMERICAN MEDICO-POLITICAL REFORM LEAGUE.

IT is announced that a number of Chicago practitioners have formed themselves into an organization under the name of the American Medico-political Reform League, for the purpose of "correcting abuses in the medical profession, securing political

representation and a general betterment of conditions for physicians and surgeons." The principal objects of the league, as set forth in the charter, are: "To procure the establishment of a national bureau of health, divorced from politics; the establishment of a uniform standard of medical requirements in the several States of the Union; encouragement and co-operation with all movements and legislation for food reform which shall be fair and impartial and founded on scientific premisses; encouragement of political preferment of physicians as tending to secure just representation for the profession; encouragement of measures for the correction of hospital and dispensary abuses of charity."

ROYAL VICTORIA INFIRMARY, NEWCASTLE-UPON-TYNE.

THE dispute between the honorary medical and surgical staff and the House Committee, arising out of the adoption of a report presented by the chairman of the In-patients' Admission Committee, in which was contained matter reflecting upon the honour of the staff, has been brought to a satisfactory close by the House Committee rescinding the resolution adopting the report, and unreservedly withdrawing the report of the In-patients' Admission Committee and the printed matter relating thereto. Steps will be taken by a conjoint body of the House Committee and the honorary staff to inquire into conditions prevailing at other infirmaries and to prepare a report accordingly.

WE regret to hear that that veteran member of the medical profession in Edinburgh, Dr. Joseph Bell, was taken seriously ill on Sunday last. We are glad to learn that on Wednesday morning he was slightly better.

THE British Association for the Advancement of Science will hold its annual meeting this year at Portsmouth on August 30th and following days under the presidency of Sir William Ramsay. Professor J. S. Macdonald is president of the section of physiology and Dr. W. H. R. Rivers of that of anthropology.

AT a meeting of the Medical Society of London held on January 23rd the President, Mr. Charters J. Symonds, announced that the Fothergillian gold medal, given triennially, had been awarded to Dr. F. W. Mott, F.R.S., for his researches on the nervous system, especially in connexion with syphilis.

Medical Notes in Parliament.

Private Members' Bills. — The postponement of all private members' chances for passing Bills till after Easter, and the allocation to them of seven Wednesdays and seven Fridays before Whitsuntide only, with the usual two days after Whitsuntide for the measures which have won approval in the House, have deprived Parliamentary work this session of much interest. The bills introduced by private members are usually pioneer bills dealing with social questions, and always educational in their influence on debate. In spite, however, of the minimizing of their opportunities in consequence of the pressing nature of public business, more than 350 members entered for the ballot. Mr. S. Phillips, an Irish member, drew first place, and the others in order of luck were Sir George Kemp, Mr. Goulding, Mr. Remnant, Captain Jessel, Major George Stanley, Mr. Carr-Gomm, Mr. Maclean, Mr. Watson Rutherford, Lord Woolmer, Mr. Whitehouse, and Sir Frederick Low. As it was generally understood that the Irish members out of a desire to help the Government to pass the Parliament Bill, would not take up any time with private bills, the appearance of Mr. Phillips's name caused some astonishment. It was anxiously canvassed whether he could be enlisted to bring in a bill for the Labour Party, who had drawn no place, but after a time it was found that the Irish member had no desire to introduce any bill; he had intended to ballot for places in the Ladies' Gallery, and somehow or other had got into the wrong ballot box and come out first. On Thursday the bills were brought in, and Sir George Kempe introduced the Women's Enfranchisement Bill and put it down for May 5th. Mr. Goulding took second choice, April 28th, with a bill to amend the Aliens Act, Mr. Remnant followed with a proposal to prevent the importation of goods manufactured under sweated conditions, and Captain Jessel selected May 19th to amend the Old Age Pensions Act. Of a total of twenty-five bills introduced few have any chance of success; but some are of interest, such as Mr. Carr-Gomm's London Poor Law Bill, a bill to limit the hours of asylum officers and servants and to amend the Asylum Officers' Superannuation Act introduced by Lord Woolmer; the Veterinary Surgeons Act Amendment Bill; two Cottage Homes Bills, and the Public Health Act Water Rights Bill introduced by Mr. Leif Jones. Two other bills, the Nurses Registration Bill and the Death Registration and Burials Bill, in both of which a good deal of interest is taken, will have to be introduced and take their chance as ordinary measures, as their promoters were unlucky in the ballot.

Rebate on Motor Spirit (Medical Practitioners).—Mr. Ginnell asked the Secretary to the Treasury if he would say why the rebate of motor spirit duty to which medical practitioners are entitled under the Finance (1909–10) Act, 1910, had not yet been paid in Ireland in respect of 1909 or 1910 in cases in which the claim had been duly made, accompanied by vouchers; if, to entitle them to the rebate, medical practitioners were required to prove that manufacturer and dealer had also paid the duty, and furnished with power to obtain this information; and when would the rebate due in respect of the last two years be paid. The Financial Secretary to the Treasury replied that if the hon. member would furnish the Commissioners of Customs and Excise with the names and addresses of any medical practitioners in Ireland who had claimed but had not been paid rebate, inquiry would be made into the circumstances in each instance. Medical practitioners and other claimants for rebate were not required to prove that manufacturers of and dealers in motor spirit had paid the duty. The inquiries as to the validity of the vouchers or certificates attached to the claims were made by officers of Customs and Excise.

The Plague: Heroism of European Doctors.—On Monday Mr. Allan Baker asked the Secretary of State for Foreign Affairs if he could say what precautions were being taken by the Chinese Government to ensure the safety of European doctors working in the plague district of Harbin. Mr. McKinnon Wood replied that His Majesty's Minister at Peking reported that all the doctors had been inoculated with Haffkine's vaccine. They were comfortably installed in a railway car, with the exception of one who was living with the British consul. The Chinese Government had done their utmost for the personal comfort of the doctors, whose private letters showed appreciation of their considerate treatment. They wore masks, oilskin boots, and complete overalls when dealing with cases of plague. The French doctor (Mesny), who was not inoculated, became infected owing to a patient coughing in his face while examining him unmasked. Dr. Jackson, the British doctor, died after continuous hard work among a crowd of infected coolies. It was believed that he was too exhausted to maintain proper precautions. The heroism of the doctors, Sir John Jordan reported, was beyond praise.

The Destruction of Rats.—Captain Clay asked the President of the Local Government Board whether the Government were prepared to introduce legislation authorizing local authorities to take such measures

as might be necessary within their areas for the destruction of rats in order to minimize the danger of an epidemic of plague. Mr. Burns said that in November of last year he issued an order directing the local authority of any district in which rats were infected or threatened with plague, or in which there was an unusual mortality among rats, to take measures for the destruction of rats and for preventing their entrance into buildings. Further legislation for this purpose does not at present appear to be required.

Professor Ehrlich's Preparation.—Mr. Goldman asked the Secretary of State for War whether the attention of the War Office had been drawn to the cures effected by the use of Professor Ehrlich's preparation 606; and whether any steps had been taken to employ this preparation in suitable cases in the British army at home and abroad. Mr. Haldane replied in the affirmative and said if the hon. member would kindly refer to the *Journal of the Army Medical Corps* for November, 1910, and February, 1911, he would find accounts of the cases in which the remedy had been tried.

Parasitic Nodules in Imported Meat.—In answer to Mr. Bottomley, who asked the President of the Local Government Board what steps were being taken with reference to the reports of Dr. MacFadden and Dr. Leiper on the parasitic condition of imported meat, Mr. Burns replied that he had received the reports referred to, and they had now been published. Copies had been sent to the port sanitary authorities, on whom devolved the duty of inspecting imported meat from all sources, and he understood that where parts of carcasses liable to be infested with parasitic nodules had not already been removed prior to exportation to this country, the meat was dealt with by port sanitary authorities in the manner referred to by Dr. MacFadden. The Commonwealth Government had undertaken to inspect all meat exported from Australia, and to take steps to ensure that no meat affected with parasitic nodules should be exported in future. It was true that Dr. Leiper had expressed the opinion that the diseased condition was not peculiar to Australian cattle, but, up to the present, he had received no reports of parasitic nodules in meat from any other countries. All imported meat was liable to examination on entry to this country. Every care would be taken to prevent parasitic portions removed being used as tinned meats.

Chinese Pork.—In answer to two questions, the one relating to the danger from introducing plague through pork produced in infected districts, and the other relating to a supposed increase of imported pork, Mr. Burns said on Monday last that the districts in China which were affected with plague were remote from the districts from which pigs had been imported to this country. No circumstances had arisen necessitating the taking of other measures than those of adequate inspection of imported meat which was in operation. Fewer carcasses were imported during 1909 than during 1910, but, as the importations of Chinese pork did not commence until July of the former year, he should hesitate to say whether the shipments were increasing. He understood that 23,246 carcasses were received at Liverpool during last year, and that the whole of these were examined. Of this number, 343 were condemned on account of unsoundness which developed in transit, and 352 on account of disease or abnormal conditions.

Medical Inspection of Schools.—Mr. Charles Bathurst asked the President of the Board of Education if he had official returns showing the results of the medical inspection of elementary school children in England and Wales for a complete school year; and, if so, what proportion of such children were found by such returns to be suffering from some physical defect or ailment; and what proportion of the latter were in a condition to render medical treatment advisable. Mr. Runciman replied that he must refer the hon. member to the report of the Board's Chief Medical Officer for the year 1909, published in December last. He would there find the fullest information available. He would refer the hon. member especially to Section II of the report, and, perhaps, more particularly, to page 27 in that section.

Anthrax.—Mr. Orde-Powlett asked the Board of Agriculture last week with reference to an outbreak of anthrax in the North Riding of Yorkshire whether the affected animals were fed on foreign cakes. The Parliamentary Secretary replied that if the question referred to an outbreak at Helperley, in December last, that a sample of the feeding stuff inspected was tested, and the bacillus of anthrax was not found. In answer to a further question, he said that he thought it desirable that in all cases in which anthrax was attributed to foreign cakes that a bacteriological examination should be made.

Treatment of Sick Poor.—Mr. Leach asked the President of the Local Government Board if he would take steps to urge all public authorities under the direction of his department to provide sanatoriums for the benefit of those people who were too poor to pay the fees at existing private establishments. Mr. Burns answered that arrangements for the treatment of the sick had already been made by boards of guardians by the provision of separate institutions or sick wards; and in suitable cases he was urging the combination of such bodies for the provision of special institutions, where these were required. Sanitary authorities had also provided about 700 hospitals, with approximately 20,000 beds, mostly for the isolation of cases of infectious disease.

Medical Relief, Termon, co. Donegal.—In answer to Mr. Hugh Law, who complained of the inconvenience of the arrangements, Mr. Birrell stated that the Medical Officer of the Milford and Kilmacrenan dispensary district resided at Milford, and poor persons from any parts of the dispensary district who required his services urgently at their homes must send for him to Milford. The dispensary district was of average size and population for a rural dispensary district (area, 28,658 acres; population, 4,242), and the medical officer attended twice weekly at Milford dispensary and once a week at a dépôt at Kilmacrenan. The electoral division of Termon had an area of 11,086 acres and a population of 1,264 persons. The village of Termon was about two miles from Kilmacrenan and between seven and eight miles from Milford, but there were, of course, outlying portions of the division which were most distant. Patients belonging to the Termon division could therefore procure their supplies of medicine either at Milford or Kilmacrenan, whichever might prove to be more convenient; and there had been no complaint to the Local Government Board or officially to the board of guardians as to the want of a dispensary dépôt for the division, nor had there been any application or proposal made for the establishment of such a dépôt. The medical officer would be entitled to a reasonable increase of salary in the event of a dépôt being established.

Irish Poor Law Reform.—Mr. Birrell stated last week in answer to two questions that he saw no prospect of introducing a bill to reform the Irish Poor Law this session.

Vivisection.—The Dogs Protection Bill to prohibit experiments on dogs was presented on Monday last by Sir Frederick Banbury and supported by Mr. George Greenwood. It was put down for second reading on Friday.

The Course of Public Business.—On Monday the Prime Minister stated that he hoped to conclude the debate on the Address on Wednesday. On Thursday the motion to take the private members' time up to April 13th would be submitted, and afterwards Supplementary Estimates would occupy the rest of the week. The Parliament Bill was to have been introduced on Monday, February 20th, but was put off till Thursday, February 23rd, to enable Mr. Balfour to be present. The Financial Resolutions will be taken on Monday.

England and Wales.

[*From our special correspondents.*]

LIVERPOOL.

The Abattoir Question.

The Liverpool City Council has decided by a majority of 67 to 30 votes to reject the advice of its special committee to remove the abattoirs and allied trades from the present site in the centre of the city to what is known as the Love Lane site of 13½ acres, bordering on the docks in the north end of the city. The special committee has sat for two years and has been at great pains to examine the matter thoroughly, having sent deputations to see the most important abattoir arrangements on the Continent. The discussion in the Council was very ably opened by Sir Charles Petrie, the leader of the Conservative party, who was seconded by Mr. Harrison Jones, the deputy leader of the Liberal party, so that party politics played no part in the matter. Sir Charles Petrie showed that the present site was unsuitable because it was only 2½ acres in extent and was incapable of extension. Within 440 yards of the present site were the Consumption Hospital, the Maternity Hospital, the Royal Infirmary, the Dental Hospital, and the Brownlow Hill Workhouse Infirmary, besides the University and the Adelphi Hotel. There had been spent on the Royal Infirmary and the University upwards of a million sterling on the understanding that the abattoir lease would not be renewed, and a large sum was being spent on the Adelphi Hotel on the same condition. From a financial point of view the new site would be preferable, as already 80 per cent. of the meat consumed in this country was imported as dead meat, and a market close to the docks would be largely used, with enormous saving effected in handling and in the prevention of the depreciation of the meat. Sir Charles Petrie reminded the Council that Liverpool, by adopting a central site for the fish market at the instigation of the traders, had lost the opportunity of becoming the great "fish port" on the West Coast as Grimsby is on the East Coast.

Sir William Forwood pointed out that by retaining the present site the Council would save £50,000, but would continue a system under which all the trades were crowded together, with absolutely no room for expansion. From his knowledge of American trade he recognized that lack of accommodation was already driving the dead meat trade to other places.

The successful opposition came from the meat traders; the mover of the amendment relied chiefly on the nature of the trades carried on around the new site—namely, a gasworks, a tannery, manure works, and refuse destructor; these, however, are only some hundreds of yards from the boundaries of a large site. He also stated that there was dust and smoke to an appalling degree, although the fact is that the prevailing winds come from the open river mouth. The dread of disturbing an existing trade evidently outweighed all other considerations, even in the eyes of some medical men who have seats on the Council.

If the Love Lane site is not ideal in all respects for the purpose, it is the best site available at present with a view to meeting all the requirements. The City Council has apparently left the matter open for future decision, and other schemes will no doubt be proposed as time goes on.

MANCHESTER AND DISTRICT.

The Manchester Royal Infirmary.

At a meeting of the board of management to consider the draft annual report, Lord Derby inquired as to patients' payments, and asked whether practically no payment was expected from out-patients. The reply was that there was practically none save in exceptional circumstances. Lord Derby said he saw from the report that the in-patients paid about 6s. 8d. each, but the out-patients did not come up to even a penny apiece. The general superintendent said that the out-patients treated were those whose incomes were so small that little could be got from them. Lord Derby said he was connected with a London hospital where it had been found that by inquiring into people's position a great deal more money was received, and that many people went there who could afford to pay for their treatment. The chairman said that the circumstances of in-patients were inquired into and they were required to pay what they could afford.

In the original appeal to the public for funds it was stated that £12,000 in new annual subscriptions was wanted to enable the institution to pay its way, in addition to the sum needed to extinguish the building debt. Last year's report showed that the response had only been £2,400. There was a further increase in 1910 of £820, but this still left £9,000 a year deficiency. The ordinary expenditure had been £37,176, leaving a deficiency of £9,232, but in addition to this there was a further deficit of £2,712 on the Barnes Convalescent Home and in other directions, making a total deficit of £11,944. Additions to capital for endowments had been received to the amount of £10,400, but the sum of £11,944 had had to be withdrawn from unappropriated capital. The total number of persons who had received the benefits of the charity was 67,837; there had been a remarkable increase in the number of minor casualties, attributed to the operation of the Workmen's Compensation Act, which made it prudent in the interests both of the workmen and the employers to seek medical aid in cases where it would formerly have been considered unnecessary. Steps had been taken to establish a special laboratory for cancer research and an appeal was made for a special fund of £2,500 to cover the cost for the next five years. Something like 600 cases of cancer were treated yearly, and it was desired to engage a director to devote himself exclusively to the work of the laboratory.

At the annual meeting of the trustees held last week the chairman, Sir William Cobbett, again drew special attention to the serious financial position. He said it was useless to have built one of the finest infirmaries in the world unless it could be used to the utmost of its capacity. In the year 1909, £5,897 was spent beyond the income, and in the past year the expenditure was nearly £12,000 beyond the income. This state of affairs, of course, could not continue indefinitely. At present 483 beds were in use, and if 168 were closed it would be possible to keep within the income. But this would reduce the beds to only 20 or 25 above the number in the old infirmary. At present 214 patients were awaiting admission, and to close down any beds would be to confess that the new institution was a failure. A second method of dealing with the difficulty would be to meet the deficiency as it arose out of capital, but this could hardly be contemplated seriously. The only reasonable method was that there should be an increase not only in the number but in the amount of the annual subscriptions. Many of the subscribers were in a position to give more, and a small increase in each subscription would make an enormous addition to the income. Sir Edward Donner seconded the adoption of the report, and it was carried. By a resolution proposed by Bishop Welldon, the Earl of Derby was reappointed president of the infirmary, and as vice-presidents there were elected the Earl of Ellesmere, Lord Egerton of Tatton, and Sir Oswald Mosley. The thanks of the trustees were given to the honorary medical staff for their services during the year.

Enteric Fever at Eccles.

A special report has just been issued by the medical officer of health for Eccles on the sudden and extensive outbreak of enteric fever that occurred in November and December last, and some interesting facts are revealed as to the spread of the disease. On November 13th the district was practically free from enteric, but on November 14th 2 cases were notified, on November 15th, 1 case; on November 16th, 11 cases; and on November 17th, 24 cases. The total number of cases notified from November 14th to December 31st

was 166, of whom 99 were under 15 years of age. Early in the epidemic the water supply, which is from Manchester, was examined, but found to be good, and nothing was found in the milk supply. As most of the patients were children, attention was directed to various articles used by children, such as sweets, but nothing was found in that direction, and the authorities were also able to exclude any infection from drains. Suspicion then fell on ice-cream, especially as information was received that a local epidemic in Manchester had been traced to ice-cream. On November 19th the Local Government Board was communicated with, and Dr. Copeman arrived in Eccles to make inquiries. He visited twelve houses involving over 20 cases, and found that all these cases did consume ice-cream on or about October 30th, and that all of them were within the round of an Italian ice-cream vendor named Antonio, who was in the district on October 23rd and October 30th. With the assistance of two inspectors from Salford a systematic house visitation was made, and numerous cases were discovered which might have been overlooked. In the Eccles parish school on November 22nd there were 27 cases of actual disease and many contacts, and the school was closed for fourteen days. Of the 72 excluded children, 5 subsequently developed enteric fever, which fully justified the closing of the school. The house of Antonio, where the ice-cream was made, was visited, and it was found to be a three storied house, the two upper floors of which were let for lodgings. The ground floor had two rooms, used for making the ice-cream. There were fourteen people resident in the house, and six of them gave the typhoid reaction. The ingredients of the ice-cream were cornflour, milk, and sugar. Milk was placed in a vessel over a gas-burner, and as it became warm a paste of cornflour and milk was stirred into it, and sugar added from a paper bag. The mixture was kept stirred until the top became "wavy"; it was then removed and put in a cylindrical zinc freezer, and taken round for sale two days later. It appears that several children living in the house had been treated for gastro-intestinal catarrh, and on October 28th the medical attendant found that three of them gave the typhoid reaction, while fourteen days later three other inmates of the house gave the reaction. There seems, then, to be no doubt that in some way the ice-cream made in the house became infected. The medical officer of health points out that the health authorities have no power to deal with ice-cream unless it can be proved to be infected, and he considers that legislation is necessary to give powers of supervision. That some inspection is needed is proved by the statement in the report that when the medical officer of health interviewed two of the men engaged in making the cream, he found "their hands absolutely black, finger-nails full of black material, their clothing dirty, their hair uncombed, and they were generally in a most disagreeable condition." The report goes on to state that the systematic visiting of the houses in the affected district disclosed numerous cases of the disease that would have been unnoticed. Many of the cases began with tonsillitis, which is regarded as showing that the lymphatic system of the intestine is not the only portal of entry, and that probably the lymphatic apparatus of the upper digestive tract may also be the infecting spot. The following interesting observation was made during the epidemic:

> Side by side with severe cases were found other cases which eliminate the typhoid bacillus in their excrement for weeks without having a clinical symptom of typhoid or even dry symptoms, which would point to the disease having been present. In these cases there has existed a reaction of the body tissues against the invading typhoid bacilli. We must, however, regard these cases as "carriers," that is to say, they have had typhoid without clinical symptoms.

It is further stated that probably 75 per cent. of all typhoid carriers are adult women, and it is exceptional for children to remain carriers.

In an appendix to the report, Professor Delépine, Director of the Public Health Laboratory of the Manchester University, states that he received the spleen of one of the patients who died at the Salford Sanatorium, and obtained from it pure cultures of typhoid bacilli which reacted with the blood of other patients affected by this epidemic in the same way as the laboratory stock of cultures. None of the ice cream seems to have been available for examination till November 21st, but two samples on that day, though they contained no specific bacteria, did contain bacteria cultivable on gelatine at 20° C. to the enormous number of 14,800,000 and 18,000,000 per cubic centimetre respectively. The extent of the epidemic is shown by the fact that on an average there were more cases occurring daily than had occurred yearly during the preceding fourteen years. Another feature is the suddenness of the outbreak and allowing for variations in the incubation period, and for unavoidable delays in discovery of cases, it would appear that all the cases discovered between November 14th and November 21st were probably infected on the same day. Professor Delépine thinks that the ice cream "must have been almost uniformly infected with the bacilli which could only be accounted for by the multiplication of bacilli introduced by infected hands or by vessels infected by faecally-polluted water or by infected milk, or by flies or dust, or in any other way, into the warm mixture used in the preparation of ice-cream, while that mixture was allowed to cool previous to freezing.

THE MANCHESTER POLICE AMBULANCE.

The Watch Committee of the Manchester Corporation has held a special meeting to discuss the question concerning the use of the police ambulance referred to in this column last week. It will be remembered that Councillor Dr. Fletcher complained that, though there was an arrangement by which the ambulance should be supplied free of charge in private cases where the medical attendant stated that the patient was too poor to pay, Dr. Fletcher had had great difficulty in obtaining the use of the ambulance in an urgent and needy case. He was also annoyed to find that the police had gone to the husband of the patient at his work and induced him to borrow the money from his employer to pay the police. After a long consultation, the Watch Committee passed the following resolution:

> That this committee is of opinion that the arrangement to which Dr. Fletcher referred in the council has upon the whole worked satisfactorily; but that, owing to its temporary nature, there has been a misunderstanding on the part of the ambulance staff engaged in this particular case, in regard to which the committee also express their disapproval of the method employed in the collection of the fee.

It will be noticed that nothing is said in the resolution as to the statement of the chairman that the committee "would accept the testimony of some medical men but not all" as to the ability of patients to pay for the ambulance. The arrangement cannot be satisfactory if it is left to an ambulance officer to accept or refuse, as he thinks fit, the word of any medical man that a particular case is urgent and needy.

CORONER AND DOCTOR AT ST. HELENS.

For the second time within the last few months, the local medical profession has had to express its sympathy with Dr. Bassett of St. Helens in his relations with the coroner. It appears that Dr. Bassett had been called in to see a child for whom a chemist had prescribed a cough mixture. Dr. Bassett gave some medicine and left directions for treatment, but the next day the child died suddenly, and he felt that he could not give a certificate as to the cause of death, and did not feel justified in saying whether or not the child had died from natural causes. The coroner thought fit to hold an inquest, for which, in quite unnecessary language, he threw the whole onus on to Dr. Bassett. In cross-examination, the coroner tried hard to get him to say whether he thought that death was from natural causes or not, but Dr. Bassett repeated time after time that he could not give any opinion one way or the other, and that being so he could not have given any certificate. The coroner absolutely refused to see the difficulty in which he was placing Dr. Bassett, and

thus the odium which he threw on him was entirely undeserved. The position taken by Dr. Bassett was perfectly clear that he had no satisfactory ground for giving any opinion. By refusing a certificate he in no way suggested any criminal action or neglect, but to say that he believed that death was or was not from natural causes when he did not know, would have been to assume a responsibility which he would not have been justified in taking. It is strongly felt that the giving or withholding of a death certificate must rest entirely in the discretion of the medical man, and to have acted as the coroner suggested would tend to reduce death certification to a useless form.

The Manchester and Salford Skin Hospital.

At the annual meeting of the subscribers to the Manchester and Salford Hospital for Skin Diseases it was stated that the honorary medical staff was urging the extreme necessity of providing additional accommodation, as the in-patient department was already used to its full capacity, and a considerable number of patients were waiting for admission. The annual expenditure was about £3,000, and the deficiency last year was £457. Towards the income patients contributed about £1,100, and for the remaining £1,540 the hospital had to depend on donations and subscriptions, which during the last few years had realized little more than £800, so that an increase of some £600 a year was needed to enable the board to continue its work. This was in addition to an amount of about £900 needed to pay off a bank overdraft. In responding to a vote of thanks to the honorary medical officers, Dr. Wild spoke of the hospital's financial requirements from a medical point of view. New methods of treatment were continually being discovered which could not be installed without expense. Referring to the number of patients treated, he said that many school children were being sent to the hospital for treatment of ailments which could quite well be treated by medical practitioners at home. The children were sent chiefly by the school authorities, and he protested that it was unfair that the time of the hospital staff should be taken up in this manner without any compensation for the work and for the expense entailed. It might be added that similar complaints have from time to time been heard from other hospitals in Manchester, and it is high time that some satisfactory arrangement should be made by the education authorities for the treatment of children for whom the authority is responsible.

LONDON.

London County Council.

Medical Treatment and Education Expenditure.

At the meeting of the Education Committee of the London County Council on February 8th the annual estimates for 1911-12 were submitted. The total was £4,981,110, about half of which represented salaries of teachers. The following individual items may be mentioned: Meals for underfed children, £89,545; medical inspection and treatment, £39,960; cleansing children, £2,205; open-air schools, £1,750; special schools—blind, £9,915; deaf, £17,415; mentally defective, £56,950; physically defective, £42,480; epileptic, £2,440; total, £129,200. Under the head of provisional sums, for expenditure not yet sanctioned by the Council, were the following items: Further provision for dental treatment, £5,000; provision for improving the working of the Council's arrangements with the hospitals, £1,000; cleansing of verminous children, £2,370. On the receipts side of the maintenance estimates were these entries: Cost of meals recovered from parents, £905; cost of medical treatment recovered from parents, £550. The General Purposes Subcommittee, in its observations on the various items, said the increase of £20,885 under "medical inspection and treatment" was accounted for by the employment of additional school medical officers and the treatment of children for eye, ear, and skin ailments. The estimate included a proportion of establishment charges not previously made, so that the actual increase was £12,000, of which £4,000 represented salaries of the increased medical staff. The estimate was based on provision for the treatment of 62,000 eye, ear, nose, and throat cases, and 1,200 ringworm cases. The hospitals and medical treatment centres at present included in the Council's scheme could provide treatment for some 32,000 eye, ear, nose, and throat cases, and 1,325 ringworm cases. The average cost was 4s. 6d. a case in respect of eye, ear, nose, and throat ailments, and 17s. 10s. for ringworm cases. The provisional item of £5,000 for dental treatment the subcommittee said was included to provide for "further experimental dental surgeries. This sum will also allow of general provision being made for a small portion of the year for all cases of London children requiring treatment." As to the "improvement of the working of the Council's arrangements with hospitals," the subcommittee said that at present it was not possible to obtain early information from the hospitals as to the attendance of the children, and many ceased attendance before treatment was completed. It was desirable, therefore, to make provision at the hospitals and medical treatment centres for following up cases and so avoiding leakage. Regarding the recovery of the cost of treatment, it was impossible to give any reliable estimate. From January to December, 1910, £185 was actually recovered from parents, but the Children's Care Subcommittee was considerably in arrear with the assessment of charges. The consideration in detail of the education estimates was postponed until the next meeting.

The County Council Medical Service.

The Council agreed on February 14th to a proposal to increase the salary of the Education officer, Mr. Blair, from £1,250 to £1,500 in two annual increments. One of the reasons for the increase given by the committee was the growth of the work which might be summed up in the phrase, "the care of the child." On this, the feeling that exists on the Council in favour of the administration of all matters concerning the health of the children through the public health service, and not through the Education Committee, found expression, one member hinting that, as a result of deliberations now proceeding in committee, Mr. Blair might soon be relieved of this part of his work.

The Special Schools Subcommittee presented to the meeting of the Education Committee a report in favour of placing the medical officer (education) formally in charge of the medical arrangements at the Council's special schools of all kinds, the local medical officers being instructed to communicate with him in all serious cases of illness and on medical matters affecting the schools. There was no reason why the scheme of sight testing in force in ordinary schools should not be applied to schools for the deaf and physically defective, especially in view of the need those two classes had of preserving their eyesight if they were to become self-supporting, and the subcommittee was of opinion that this should be done. Owing to their unreliability under test it would not be desirable to apply the scheme to schools for mentally defective. The subcommittee recommended that one of the present quarter-time posts should be abolished and a full-time officer appointed as medical examiner under the Elementary Education (Defective and Epileptic Children) Act, 1899. This post would be of a grade somewhat lower than that of full-time assistant medical officer, but higher than that of a school doctor, and a suitable man could be obtained for a salary of £400 a year, rising by annual increments of £25 to a maximum of £500 a year.

The committee decided to recommend the Council to create such a post, but to call the occupant a "medical officer" and not a "medical examiner."

Defects of the Hospital Scheme of Medical Treatment.

The Children's Care Subcommittee in a long report dealt with the question of the charges to parents in

respect of the medical treatment of their children. The experience of the past year, it was stated, showed the scale by which remissions were calculated to be too complicated. (This scale took a "standard family" as consisting of two adults and four children, and went into such detail as to grant remissions varying by a penny or two as between a man having 22s. 6d. and one having 25s. a week.) The administration of this scale had been "a source of considerable difficulty." It had also to be stated that as, prior to the arrangements made by the Council, necessitous parents were able to obtain free treatment at most of the hospitals, many of them regarded the Council's arrangements as an interference with what they considered to be their rights and privileges. At the present time the work of assessing charges was seriously in arrear—out of 14,000 cases treated, only 7,000 had been assessed. Care committees objected to assessing and presenting claims to parents where there was no intention to recover. From the point of view of the hospitals, it was contended that the fact that the Council made a charge to parents was likely to have a prejudicial effect upon subscriptions. Many hospitals were constituted as institutions to provide "free treatment for the sick poor," and this had prevented certain of them from coming within the Council's scheme, and was understood to be the chief consideration which influenced the authorities of St. George's Hospital in withdrawing from the scheme. Another difficulty arose in connexion with the Hospital Saturday Fund, 75 per cent. of which was obtained as the result of small sums contributed by employees in workshops and factories. Since the adoption of the Council's scheme some of the hospitals—a relatively small number—had declined to accept in some instances Hospital Saturday Fund letters from children and had required a Council voucher instead. The supply of this voucher involved a charge to the parent by the Council. Parents who were subscribers to the Fund considered that they made two contributions for the treatment received under the arrangements made by the Council.

In view of the foregoing considerations the subcommittee thought the existing arrangements in respect of charges for medical treatment should be discontinued. It was not prepared to substitute, however, a classification suggested by the Finance Committee on the following lines:

(1) Parents able to do so, to pay the full amount;
(2) Parents able to pay only part of the cost to pay a definite fixed amount;
(3) Parents unable to pay anything to be exempted altogether;
(4) The scale to apply to dental treatment, 1s. being charged where parents were only able to pay part of the cost.

Such a system, in the opinion of the subcommittee, would not avoid the necessity for detailed inquiries, or lessen to any appreciable extent the work of the local care committees, or obviate the difficulties in relation to the hospitals. The subcommittee proposed that a uniform charge of 1s. should be adopted for the complete treatment of both medical and dental cases, no charge to be made to the parents of necessitous children, or in cases in which, after careful inquiry, it was ascertained that the parent had been accustomed to subscribe to the Hospital Saturday Fund or had any other legitimate claim to free hospital treatment.

This was agreed to without discussion, the report being reached at the end of a long sitting. A further proposal to relieve the pressure of work upon the care committees by remitting all outstanding arrears was withdrawn.

School Doctors' Substitutes.

In order to avoid inconvenience which has arisen owing to the absence of school doctors on days fixed for medical inspection of schools the Education Committee decided that in all cases of absence of school doctors efficient substitutes must be engaged, and, except in cases of illness, the amount paid to the substitute should be deducted from the salary of the absentee.

BIRMINGHAM.

EDUCATION OF EPILEPTIC CHILDREN.

CERTAIN suggestions for the care and education of epileptic children, made by the Special Schools Subcommittee of the Birmingham Education Committee, have been adopted. The children have been divided into three classes. The first group consists of children who require education in a residential school. These are hopeful cases, without any mental deterioration, and with proper treatment should have a chance of real recovery. It is hoped that their education can be provided in connexion with a scheme for the establishment of a children's department at the Monyhull Colony, near King's Heath, under powers to be conferred by the Poor Law clauses of the Greater Birmingham scheme. The second class is made up of children in whom mental defect is associated with the epilepsy. They can never become independent of others, and it is proposed to teach them simple household duties in the special day schools, so that when they are sent into the Monyhull Colony they will be useful colonists, and able to help in the various departments, and thus contribute to their own support. The third group consists of children who might attend ordinary elementary schools. They are those who have but one or two fits, and who need to be kept under observation. It has been recommended that the medical superintendent devise a scheme whereby he will receive a report of these children, and, if necessary, re-examine them at least every six months, or more frequently if he deems it necessary. The whole scheme depends on the passing of the Greater Birmingham Bill, which, when passed, will give the guardians power to receive these cases from the Education Committee, and provide accommodation for them at the schools about to be built at Monyhull.

HOSPITAL SATURDAY HOME FOR CONSUMPTIVES.

An appeal has been issued by the Sir William Cook Memorial Committee for funds to enable them to proceed with the scheme for providing the new Hospital Saturday Home for Consumptives on Romsley Hill, between the Lickey and Clent Hills. It is expected that the foundation will be laid about Easter, and that the home will be ready to receive patients in the autumn. The Birmingham Hospital Saturday Fund have arranged to take over the responsibility of managing and maintaining the home when it is opened. It is very essential, therefore, that the buildings should be handed over to them free of debt, and to ensure this nearly £7,000 more will have to be raised. Besides an appeal to workpeople, a further appeal for private donations is being issued, and the committee is asking the board of directors of some of the leading companies to make grants in view of the fact that the matter is one of such urgent importance to the city generally. The directors of several large companies have already made grants varying from 50 to 100 guineas.

DURHAM.

PROPOSED COUNTY SANATORIUM FOR CONSUMPTION.

DR. EUSTACE HILL, medical officer for the County of Durham, has presented to the county council a report on the prevention of pulmonary consumption, with special reference to sanatorium treatment. The report states that in the administrative County of Durham deaths from consumption annually exceed 800, and those from other forms of tuberculosis number at least 600. The medical officer assumes that at the present time there are certainly more than 4,000 persons in the county suffering from pulmonary consumption. There has been a notable decline in the mortality from consumption since 1892, exceeding 40 per cent.; but there has not been so marked a decline in the deaths from other forms of tuberculosis, especially in children, and he suggests that the reason is that breast feeding of infants has

largely given way to artificial feeding, so that the opportunities for infection by the milk from tuberculous cows is thus greatly increased. The decline in the mortality from pulmonary consumption he attributes to the general improvements in the sanitation of the county, especially the drainage of the soil and improved construction, lighting and ventilation of dwellings, factories, and workshops; other important factors are, in his opinion, increasing temperance and greater attention to personal hygiene.

Dr. Eustace Hill considers that on the whole the results of sanatorium treatment have been satisfactory, though the percentage of permanently cured is not so large as was first expected, owing partly to the fact that a considerable proportion of those admitted were suffering from the disease in too advanced a stage, and partly because many were unwilling or unable to continue the necessary treatment and preventive measures on return to their homes and occupations, with the result that relapse not infrequently occurred. The experience of the County of Durham Society for the Prevention and Cure of Consumption was that only one-fourth of the cases admitted to the sanatorium were in a curable stage. Holding, however, that sanatorium treatment is of the greatest value both as a curative and educative influence, Dr. Hill recommends that a conference of county, borough, and district council representatives should be held to discuss the matter, but expresses the strong opinion that success in early cases will be largely dependent on the compulsory notification of phthisis in the districts it has to serve. While he advises that the administrative buildings should be a permanent structure, he advises that the sanatorium generally should be regarded as a camp, patients being housed in shelters or inexpensive but comfortable pavilions providing the maximum of fresh air and sunshine. He estimates that the establishment and maintenance expenses for one hundred patients would be £6,480, and states that in the scheme for the West Riding of Yorkshire it is estimated that the annual cost for each patient, including repayment of capital and interest on loan, would be £73 12s. a year. He speaks highly of the good work done by the County of Durham Society for the Prevention and Cure of Consumption, which has provided a sanatorium of 45 beds for men at Stanhope and one of 28 beds for women at Wolsingham, but adds that the large proportion of the patients treated reside in districts outside the area of the administrative county.

Dr. Hill sums up his views as to the conditions which any effective scheme for stamping out consumption and other forms of tuberculosis in the county must fulfil in the following propositions: (1) Sanatorium treatment for early cases. (2) The provision of accommodation for advanced cases of consumption which are a danger to the public health, and for the treatment and education of cases of consumption unsuitable for sanatorium treatment. (3) The compulsory notification of cases of pulmonary consumption. (4) An adequate staff to enable the necessary supervision and assistance to be given to consumptive patients, and to deal with sanitary defects found in the homes of such patients. A trained health visitor in each district would be especially useful. (5) The provision of one or more suitable houses in every town and village for accommodating workmen and their dependents who have been discharged from sanatoriums and whose home conditions are unsuitable. (6) The prevention of the sale of milk from tuberculous cows, and the safeguarding of the purity of the milk supply; and for this purpose legislation is urgently needed.

THE eighth annual meeting of the American Society of Tropical Medicine will be held in New Orleans on May 18th and 19th. The Secretary of the society is Dr. John M. Swan of Watkins, New York.

THE third Congress of the German Urological Society will be held at Vienna on September 11th, 12th, and 13th, 1911, under the presidency of Professor O. Zuckerkandl. Communications relative to the congress should be made to Dr. Kapsammer, IX Maria Theresienstrasse 3, Wien.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

EDINBURGH OBSTETRICAL SOCIETY.

IN place of the ordinary monthly meeting of the society a complimentary dinner to Dr. William Craig, on the occasion of his resignation of the office of treasurer, was given in the Caledonian Station Hotel on the evening of February 8th. About fifty Fellows and guests sat down under the chairmanship of Dr. Haultain, the president of the society. Among those present were Emeritus Professor Sir A. R. Simpson, Professor Stephenson (Aberdeen), Professor Sir Halliday Croom, and Dr. Byrom Bramwell (President of the Royal College of Physicians). The toast of "The King" was given by the President. Sir Alex. R. Simpson, on behalf of the society, presented Dr. Craig with a silver tea and coffee service as a recognition of his valuable services as treasurer for thirty-five years. He referred to the remarkable improvement in the financial condition of the society that had been effected during Dr. Craig's stewardship, and to the high esteem in which Dr. Craig was held. In reply, Dr. Craig gave interesting reminiscences of his earlier connexion with the society. The health of the President was proposed by the President of the Royal College of Physicians. Subsequently an enjoyable programme of song and anecdote was contributed by various of the Fellows present.

THE EDINBURGH MEDICAL MISSIONARY SOCIETY.

The annual meeting of the Edinburgh Medical Missionary Society was held on January 26th. Among the philanthropic agencies of this country none occupies a higher place, and none more deserves liberal support. The more so that it does not ostentatiously parade its claims. It was, therefore, gratifying to the friends of the society to read in the *Times* of January 3rd the letter of the Bishop of Chichester regarding one part of the work carried on by it. Dr. Ridgeway says that, during a short stay in Nazareth in November last,

> I found a splendid work being done in a house that is rented temporarily for the purpose, and a large number of patients, men, women, and children—all surgical cases—under the care of one doctor and two trained nurses. When I add that in one year 677 important operations have been performed, 13,734 attendances at the hospital, and 1,224 visits to patients in their own homes, some faint idea of the work that is being done by these three workers may be formed. I am writing this letter because my knowledge of the generosity of Scotch people during five years' work in Edinburgh convinces me that once they know of the excellent work that is going on in the name of Scotch people, they will not be content to leave the doctor and nurses to struggle on in premises ill adapted for such a purpose, and terribly understaffed, but will readily respond to a call for help that comes from Nazareth at Christmastide.

To accomplish this adequately something like £8,000 will be required, and of this nearly £3,000 have been given or promised. The Secretary of the Society is Dr. Sargood Fry, 56, George Square, Edinburgh, who will gladly send a booklet giving the history of the mission in Nazareth to any medical or philanthropic friend who sends a post-card for it. This mission was established at Nazareth in 1866, when only one other agency of a similar character existed in the Holy Land, namely, that of the London Jews Society in Jerusalem. The whole of Galilee was then without any Protestant medical work. In 1861, fifty years ago, the society sent Dr. Vartan, and he laboured nobly and unremittingly at his post till 1908. In 1904 Dr. Scrimgeour was appointed by the society to be the colleague of the veteran Dr. Vartan. They worked together for four years, when Dr. Vartan died. Patients now come not only from Nazareth itself and from Galilee, but also from many of the villages in the country on the east side of the Jordan. Two and even three days' journey is by no means unusual. An excellent site for the hospital, out-patient block, and doctor's house, has been secured on the hill slope towards the west side of Nazareth, which is now a town with 10,000 inhabitants.

The new hospital will face south, and from it a clear

view will be obtained over the plain of Esdraelon, with the Jordan valley visible towards the east, and Mount Carmel towards the west. It will be a prominent landmark on the Nazareth hillside to all dwellers in the Plain from the base of Tabor to Megiddo. The Bishop of Chichester puts the matter on the generosity of the Scottish people, but why should not the erection of a mission hospital in Nazareth be a fitting tribute from Christians in all lands?

The Edinburgh Medical Missionary Society practically began in the drawing-room of Dr. John Abercrombie in 1841. Dr. Peter Parker, who had been working for a few years in Canton as an agent of the American Board of Commissioners for Foreign Missions, was then passing through Edinburgh on his way home to America. He was Abercrombie's guest, and so interested him in the subject that in November of that year the society was formally constituted, with Abercrombie as its first President, and the Rev. Dr. Chalmers and Professor Alison of the University Chair of Medicine, the first Vice-Presidents. In the second annual report occur the well-known medical names of Abercrombie, Alison, Cullen, Handyside, Keith, Moir, Newbigging, Omond, Coldstream, and Benjamin Bell. Later one finds the names of Sir James Simpson, James Miller, William Beilby, Crum Brown, Joseph Bell, Halliday Douglas, A. R. Simpson, Grainger Stewart, A. S. Miller, A. H. F. Barbour, and J. W. Ballantyne. The influence of the society is world-wide. At the present time over eighty of its missionaries are scattered over the globe, and over twenty students are in training.

PRACTICE IN SHETLAND.

A correspondent, writing under the *nom de plume* of "Observer" in the *Shetland Times* of February 4th, takes exception to the remarks made in the BRITISH MEDICAL JOURNAL of January 7th with reference to the public meeting convened at Queness to consider the question of getting a doctor for the parish. "Observer" now states that £50 will be given as an inducement to any medical man who wishes to undertake the duties of medical officer. It will be seen from the advertisement which appears in the *Scotsman* of February 11th that the duties devolving on the successful applicant seem to be of a much more arduous character than those which we referred to in the remarks made on January 7th.

It is stated in the advertisement that for the sum of £50 a year (£20 from the parish council and £30 guaranteed by the local medical association—that is, by subscriptions of the inhabitants) the medical officer has to look after several parishes, besides, we suppose, attending the families of those who subscribed. He does not even get a house; this would have to be rented, but the possible applicant is consoled by the information that he can also rent a "park and stable." Then the expense of getting from place to place must be considerable, so that the holder of the appointment would, it seems not improbable, find himself out of pocket at the end of the year. No reflections regarding the desire of the community in their endeavour to get a medical officer were intended, but what we wished to point out was that the salary offered is not sufficient to induce any one to be an applicant for the post. The advertisement quoted above bears out this contention.

GLASGOW WESTERN INFIRMARY RESIDENTS' CLUB.

The sixteenth annual dinner of the Western Infirmary Residents' Club was held in the Grosvenor Restaurant, Glasgow, on Thursday, February 9th, W. F. Somerville, M.D., being in the chair.

After the toast of "The King," the "Old Institution' was proposed in an ornate speech by Dr. W. R. Jack, in the absence of the senior croupier, Dr. A. J. F. Skottowe, of Helensburgh, and was replied to by Dr. George MacLeod, the junior croupier. The toast of "The Club" was proposed by the chairman, Dr. Somerville, who stated that his had been the unique experience of acting under all three Superintendents of the Western Infirmary. During the period of his residency in the Western Infirmary in 1884–85 Dr. John Alexander, the first Superintendent, retired, and was succeeded by Dr. A. W. Russell, and now as radiographer to the Western Infirmary, he was serving under Dr. D. J. Mackintosh, M.V.O., who was not only the present Superintendent, but also the "chief" of the electrical department. The club at its dinner that evening had also a similar unique experience, in that all three Superintendents were present, and the members of the club gave them a cordial welcome. The chairman referred to the fact that since his tenure of office as a resident assistant six of the "chiefs" had passed away, and the remaining two, Sir Hector C. Cameron and Dr. Gavin P. Tennent, had now retired from active duty. The health of "Our Guests" was proposed by Dr. J. Walker Downie and replied to by Dr. R. Barclay Ness and Dr. R. Kennedy, both of whom had lately been appointed to wards in the Western Infirmary. The toast of "Absent Friends" was sympathetically dealt with by Dr. J. H. Nicoll. The club is immensely indebted to Dr. J. Galbraith Connal, the secretary, who by earnest endeavour keeps in touch with the many past resident assistants of the infirmary. He stated that at this dinner there was a record attendance of seventy members. The treasurer, Dr. William McLennan, reported the club to be in financially sound condition, with a satisfactory credit balance.

The club was indebted to Dr. Alex. Macphail, Professor of Anatomy at Charing Cross Hospital, London, for an artistic menu card drawn by his skilful pen.

The evening was pleasantly spent with song and story, and was brought to a close by the time-honoured "Auld Lang Syne."

GLASGOW WATER SUPPLY.

Fifty years ago the Loch Katrine scheme for the Glasgow water supply was completed, and a scheme for the augmentation of the supply then provided is now in course of being carried out. It is to provide 10 million gallons per day as an addition to the 65 million gallons provided at present. This is being secured by adding the Loch Arklet watershed to the existing catchment basin of Loch Katrine, a scheme authorized in 1895 by an Act of Parliament, which also gave the corporation powers to raise the level of Loch Katrine. A Provisional Order in 1902 allowed an alteration in the original plans, so that the main barrage or dam might be placed at the lower end of the valley, a mile further down the stream than was originally proposed. The Loch Arklet scheme will double the area of the loch by means of a dam at the western end of the Arklet valley, raising the level of the loch by 22 ft. above its present level, reversing the outflow which is being poured into Loch Lomond, diverting it into Loch Katrine. The present area of the loch is rather over 200 acres. At present it is 1¼ miles long, and the extension will make it 2½ miles. Part of the existing tourist route from Inversnaid to Stronachlacher will be submerged, and a new roadway has already been completed.

The new works present many interesting features. The huge dam is 1,100 ft. in length, 12 ft. thick at the top, and 34 ft. thick at ground level in the centre. The overflow sill will be 200 ft. long, and will be faced with granite. A large part of the dam is now completed. At the east end of Loch Arklet is the tunnel which will carry the water from the new reservoir into Loch Katrine; it will be 840 yd. long, 11 ft. high, and 12 ft. wide at the spring of the arch. In its construction some difficulties were encountered owing to the nature of the material met with in the boring, much of it being wet clay with boulders in the upper part and hard rock in the lower. The machinery for stone crushing, the derricks, pumps, air compressors, the aerial ropeway, and other appliances are all electrically driven by energy supplied from the Arklet stream. The distance from the power station to the tunnel workings is about six miles. The aerial ropeway referred to is an ingenious device to overcome difficulties in transport of material. The level of Loch Arklet is 100 ft. above that of Loch Katrine, and nearly 450 ft.

above that of Loch Lomond. The nearest railway at Aberfoyle is fifteen miles away, and the roads are very steep, narrow, and unsuitable for heavy traffic. A pier was therefore built on Loch Lomond side, and an aerial ropeway, 1¼ miles long, constructed from there up to the dam. It rises to 540 ft., and then descends to the Arklet Valley. All the material is transported by this means, the passage from terminal to terminal occupying twenty minutes, and 50 tons in single loads of 2 tons each can be carried in an hour. The works are well forward, the mild weather during autumn and early winter being favourable for the progress of the work at all points.

Milk Supply and Public Health.

Dr. James Erskine, who was recently returned as a member of Glasgow Town Council, delivered a lecture on milk supply and public health in the Saltcoats Town Hall on February 7th. He described the conditions under which milk was produced and distributed in the country at present as very unsatisfactory, and indicated various means of obtaining cleaner milk. Attempts made by private enterprise, although successful, were so costly as to be prohibitive for the general public, who must be prepared to pay a price that would enable the dairy farmer to introduce modern appliances. He suggested the establishment of model farms by local authorities for the supply of milk to their hospitals, so that there would be no competition with the dairy trade, and no interference with commercial economy in supplying this restricted class.

Smoke and Phthisis in Paisley.

In order to demonstrate the effects of smoke and soot in the atmosphere, Mr. W. W. Kelso, the chief sanitary inspector for Paisley, has just completed a series of interesting experiments. Nine open boxes were placed in different parts of the town from November till the middle of January, when they were taken in and the soot and dust carefully measured and analysed. It was found that they amounted to an average of 13⅝ cwt. an acre per annum throughout the town, which covers 3,487 acres. Paisley was not much better than Glasgow, where the smoke and dust fall is 15.7 per acre; the burgh of Elgin has an average of only 6.9. Most of this soot is due to household smoke, as 40 household chimneys are equivalent to one chimney stack, and there are only 200 chimney stacks in Paisley.

The annual meeting of the Paisley and District Branch of the National Association for the Prevention of Consumption was held in the Paisley Council Chambers on February 6th. The report showed that although the amount of phthisis in Paisley had been reduced by about 80 per cent. in recent years by the removal of slums, much work still remained to be done. It is hoped that the Tuberculosis Exhibition will visit Paisley in the autumn. Dr. Joshua Ferguson said that it was a sad state of affairs that of 175 cases of phthisis sent by the association to the sanatorium at Bridge of Weir, only 27 were now alive or traceable. The disease must be grappled with closely. The reports were approved and an executive committee appointed.

Treatment of Consumption in Galashiels.

The fourth annual report of the Galashiels branch of the National Association for the Prevention of Consumption, which has just been issued, shows that during the past year 16 patients underwent treatment in the Meigle Sanatorium, as compared with 17 in the previous year. The average stay in the hospital of the completed cases was 210 days. The committee states that the sanatorium has recently been utilized by patients suffering from phthisis to a much greater extent, but regrets that too few apply while the disease is in its incipient stage, when lasting benefit and even complete cure could be effected.

Medical Inspection of Schools.

A comprehensive report on the medical inspection of school children in the counties of Fife and Kinross in the year ending July 31st, 1910, has been issued by Dr. Dewar, formerly Medical Officer of Health and Chief Medical Officer for School Inspection for these counties, and now Medical Inspector to the Local Government Board for Scotland. The total number of children medically inspected during the year was 11,905, and the number to whose parents notices of defect or ailment were sent was 2,264. The number and nature of the defects found were: Vision, 474; hearing, 370; speech, 85; external eye affections (including squint), 321; nose and throat (enlarged tonsils, adenoids, mouth-breathing, etc.), 5,075; tuberculosis, 51; nervous affections, 55; heart disease, 192; lung disease, 308; deformities, 74; skin affections (impetigo, eczema, etc.), 194; ears (otorrhœa), etc., 253; ringworm, 7; scabies, 4; rickets, 11; mentally defective, 18; mumps, 3; total, 5,710. Defects noted in children specially submitted by head masters to school medical inspectors, termed "non-routine" cases, numbered 2,133. The total cost for each child inspected was 2s., and the cost for each child on the roll, 7¾d.

A circular letter has been issued to the various school boards in the county of Dumbarton by Dr. J. C. McVail, the County Medical Officer of Health and Chief Medical Inspector of Schools, intimating that the Central County School Authority purpose appointing one lady medical inspector and one male medical inspector, and detailing the proposed method of procedure for inspecting the children. The children will be medically inspected four times during their school life, and the co-operation of teachers is asked for during these periodical inspections, in order that one whole-time outdoor nurse might be enabled to devote her whole attention to the following up of defective cases.

Elginshire Medical Officership.

A committee of the Elgin County Council and the Secondary Education Committee have agreed to make a joint appointment in connexion with the offices of county medical officer and medical inspector of schools. The yearly salary offered is £550, out of which the incumbent will have to pay travelling expenses and provide office and clerical assistance.

Biggart Hospital Home.

To this institution, which supplies a much felt want in connexion with the treatment of children suffering from incipient tuberculosis, a new wing has recently been added. It now contains 140 beds, and is equipped with all the modern appliances for the proper treatment of children suffering from incipient tuberculosis and almost all other bodily ailments to which children of the poor are liable. Since its opening six years ago cases have constantly been sent to the home by surgeons of hospitals and infirmaries requiring special treatment preparatory to undergoing operations, and also for building up strength after operations have been performed.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Royal College of Surgeons in Ireland.

The annual Charter Day dinner of the Royal College of Surgeons was held in the banqueting hall of the college on February 11th, and was attended by a very large gathering of Fellows of the College and their guests. The latter included His Excellency the Lord Lieutenant of Ireland, the Right Hon. T. W. Russell, Professor G. P. Mahaffy, the President of the Royal College of Physicians, Captain Wilkinson, Ulster King of Arms, and many others. The toast of "His Excellency the Lord Lieutenant" was proposed by the President of the College, Dr. R. H. Woods, in an interesting and amusing speech, and was cordially responded to. The other toasts were "The Guests," "The Sister College," and "The Royal College of Surgeons," one of the features of the evening being the inimitable speech of Professor Mahaffy in responding for the guests. During the evening an excellent pro-

gramme of music was provided by a quartette of well-known Dublin musicians.

PRIMARY SCHOOLS IN IRELAND.

The Dublin Sanitary Association has issued an important report on the working of the Irish Education Act of 1892. As seventeen years have elapsed since the passing of the Act, two generations of school children may be considered to have passed under the control of the Commissioners of National Education. The percentage of the average daily attendance of pupils to the number of pupils on the roll has now reached 71.1, and in consequence the conclusion is drawn that the primary object of the Act—namely, the school attendance of the children—has been attained to quite as great a degree as could have been expected. As regards the bodily welfare of the pupils, however, the Act is regarded as far from satisfactory. The school grant is legally payable only to those schools that are conducted in accordance with the regulations of the Commissioners, but apparently the Commissioners have not seen their way to make provision of a thoroughly sanitary school one of their regulations, and in consequence the condition of many schools is not what it ought to be. In the opinion of the Sanitary Association children should be prohibited from attending schools improperly equipped from a sanitary standpoint. Children are exempted from school attendance on the score of illness, but, as a medical certificate is required, it is easier for parents in cases of illness that do not cause confinement to bed to send the children to school than to obtain a certificate. The result is that children with all sorts of contagious disorders are found mixing with the healthy children in the school and the school playgrounds. No facts available as proof have been collected, but it is believed that a condition of things exists amongst the Irish school children similar to what has been shown to exist in England. The attention of the Commissioners has been drawn to these matters, who in reply stated that they approved strongly of the medical inspection of schools, and would be glad to see a system similar to that prevailing in England introduced into Ireland, but regretted that they had no funds available for the purpose. The Sanitary Association is of opinion that either funds should be provided immediately or the compulsory clauses of the Education Act dropped, as no standard of national education can justify the compulsory and systematic exposure of healthy children to infection from disgusting and dangerous disorders.

ROYAL DUBLIN SOCIETY.

At a recent meeting of the Agricultural Committee of the Royal Dublin Society a resolution was passed calling the attention of the Department of Agriculture to the paramount necessity of establishing a veterinary research station in Ireland for the investigation of diseases of cattle and the dissemination of the knowledge acquired throughout the county.

RICHMOND ASYLUM.

The estimates for the year 1911–12 for the Richmond Asylum have been issued, and amount to £110,840. This sum exceeds the estimates for last year by about £6,000; the excess is due to the necessary provision for 300 additional lunatics who are to be admitted from the workhouses of the district. In spite of the fact that the price of commodities generally has increased, the estimates have been kept down by the exercise of rigid economy.

DRUMCONDRA HOSPITAL.

The managing committee of the Drumcondra Hospital, which is situated in a large and important suburb of Dublin, has decided to organize a large bazaar in May of this year for the purpose of raising funds for the enlargement of the hospital buildings. Until lately the hospital only admitted fever cases, but in recent years it has been fitted out as a general hospital for all medical and surgical diseases. A debt has been thereby incurred, which it is hoped will now be wiped out, and that, in addition, a surplus fund will be available for the building of a much-needed nurses' home.

MEDICAL OFFICER FOR SKIBBEREEN UNION.

The dispute as to the medical officership of the Skibbereen Union still goes on. At a recent meeting Mr. M. J. Burke, B.L., the Chairman, refused to allow the guardians to proceed to a poll, and nothing was done. At the next meeting a long and acrimonious discussion took place over the signing of the minutes, the chairman insisting on putting a note of his own on the minutes. Following this a letter was read from the Local Government Board, threatening to apply for a mandamus if the guardians did not immediately elect a second medical officer in the room of Dr. Collins. A motion to proceed with the election that day fortnight was proposed, but the chairman refused to take it, except as a notice of motion, and another heated scene followed; the chairman was frequently called upon to leave the chair, but declined to do so. The Clerk was pressed to take a poll, but the chairman would not recognize it. Eventually a division was taken, 17 voting for the resolution and 2 against. At the last meeting the guardians proceeded to elect a medical officer for the male side of the workhouse, when 19 votes were cast for Dr. O'Meara, and the same number for Dr. Burke. The election stood adjourned, but Dr. O'Meara handed in a written statement claiming the election on the ground that, being duly proposed and seconded, he was the only legal candidate before the board.

WHAT IS CIDER?

A series of cases, recalling the famous question, "What is whisky"? has recently been heard in Dublin concerning the origin and nature of the beverage to which the term "cider" is applicable. The most important case was taken at the instance of the Dublin Corporation under the Food and Drugs Act. One of the corporation inspectors on asking at a publican's establishment for a bottle of cider, was supplied with a beverage labelled "Rutter's Cider." A further inscription on the bottle stated that the "contents were not guaranteed pure apple cider." Analysis proved the liquid to be non-alcoholic, and to contain no apple juice, the ingredients present being apparently sugar, tartaric acid, and water. The beverage has been made for the last forty years in Cork, and its manufacturers seem to have been acting in perfect good faith in naming it as they did, their object being to provide a non-alcoholic beverage for teetotalers. The result of the action has been to limit the use of the term "cider" to "fermented juice of the apple," a conviction with the imposition of a nominal fine being registered against the salesman of Rutter's cider in the present instance.

PRECAUTIONS AGAINST PLAGUE.

The Local Government Board in Ireland has issued temporary regulations which are to be in force in the district of every port sanitary authority, and within the district of every urban and rural sanitary authority in Ireland, intended to safeguard the country against the entrance or spread of plague. The following are the more important regulations:

(1) The Sanitary Authority is directed to ascertain whether there is any disease or unusual mortality amongst the rats of the district, and, if such be found, to immediately report the same to the Local Government Board, and to take steps to ascertain whether any such animals are suffering from plague. (2) If plague is found or suspected to exist amongst the rats of the district or in any ship lying in water abutting on the district, the Sanitary Authority is at once to include plague amongst the notifiable infectious diseases, and is to take steps (*a*) to destroy all articles exposed to infection, (*b*) to destroy all rats in the locality, and (*c*) to remove all deposits of rubbish or other materials likely to attract such animals.

UI BREASSAIL.

It is understood that one of the features of the great health and industries show to be held at Ballsbridge in May and June next will be a food section intended to be of an educational character. All the manufacturers of food in Ireland have been asked to exhibit, and the food value of each article shown will be illustrated in some way. A special section will be devoted to milk, and practical illustrations of the pasteurization of milk will be given.

Special Correspondence.

BERLIN.

The Travelling Tuberculosis Museum.—Transfer of the State Medical Department.—The Leyden Lecture.—The German Emperor's Interest in "Hata 606" (Salvarsan).

THE travelling museum of the German Central Committee for Combating Tuberculosis is on view in Berlin for a short time, and well deserves study. Not only the lay visitor, but the medical practitioner also, is sure to find among its exhibits objects out of the common, or even new to him. For instance, there are some interesting pathological specimens, such as tuberculosis of the pig, the goat, and the monkey (contributed by Schuetz, of the Berlin Veterinary College), human peritoneal tuberculosis (contributed by Orth, of the Berlin Charité), haemorrhage of the lung (contributed by Pick, of the Berlin Friedrichshain Hospital); there are Roentgen photographs of the different stages of phthisis, and excellent pictures of lupus and tuberculosis of the cutis. Enlarged anatomical drawings illustrate the process of breathing and the activity of the lungs and the thorax; other drawings and a set of microscopes show the tubercle bacilli and their destructive action on the tissues. Coloured maps, tables, and graphic representations give a notion of the immense prevalence of tuberculosis at the present day (for the German Empire no less than 800,000 cases, with an annual death roll of 100,000). One department of the exhibition is devoted to modern methods of preventing the spread of tuberculosis; another to the measures for combating and healing the disease. There is no charge for admission, and specially trained officials are in attendance, who personally conduct the lay visitors through the exhibition; and free popular lectures are also given. The morning hours are reserved for the upper classes of schools.

The much debated and long-expected transfer of the Prussian State Medical Department from the Cultus Ministry to the Ministry of the Interior has been definitely decided on, and will take place on April 1st. In a lengthy and somewhat wordy rescript issued by the Cultus Minister the considerations that have led to this change are set forth. Put in a nutshell, they are the following: (1) The Cultus Ministry, overloaded with affairs already, is not sorry to get rid of this department with its ever-increasing business. (2) Modern hygienic methods have brought the State Medical Department into close touch with organizations that belong to the domain of the Ministry of the Interior—such as townships, communal unions, and the police force—so that its work is now largely concerned with theirs; it therefore stands to reason that a mass of official correspondence will be avoided and much time saved by an arrangement bringing all these units under one common head.

A special "Leyden lecture" is to be held annually at the first meeting of the Berlin Verein für innere Medicin und Kinderheilkunde in memory and honour of its founder and (for many years) honorary president, Ernst v. Leyden. The lecturer is to be selected by the society's committee, and his fee of 400 marks (£20) will be drawn from the funds of the "Leyden-Stiftung," a foundation which was established by subscription on Leyden's 70th birthday.

By special command Professor Ehrlich gave a short lecture on "Hata 606" before the Emperor at the Royal Castle, Berlin, on the morning of the 23rd, and remained to lunch with the Imperial Family. It is understood that His Majesty followed Ehrlich's rapid survey of his experiments and their results with the keenest interest, and that he had many questions to put.

VIENNA.

Protest against the Proposed Reform of Hospital Management.—Fresh Water Supply for Vienna.

THE proposal to unite into one body the managing boards of all the hospitals and other charitable institutions of Lower Austria, which has already been referred to in a former letter in the BRITISH MEDICAL JOURNAL, dated October 15th, 1910, has caused much excitement amongst the different hospital staffs, and indeed throughout medical circles in general. Three points in particular of the proposed alteration were viewed with disfavour by the profession—namely, the overwhelming influence with regard to matters relating to the outfit of the hospital to be placed in the hands of the non-medical members of an administrative body such as the one proposed, the appointment of hospital doctors, and the levying of a health tax upon the public. The ruling party, in whose interest the proposed reform has principally been made, has hitherto displayed so hostile an attitude towards science, and medicine in particular, that the profession naturally distrust all so-called "reforms" originating from such a source. The power of placing the members of a certain political party at the head of all the hospitals in the country would give that party a very strong position for some years; that is why politicians are doing their utmost to get the administration of hospitals into their own hands. On the other hand, the Austrian doctors have strained every nerve to avert the danger, or at least to lessen it as much as possible. The medical councils of Vienna and Lower Austria have made strong representations to the Government against the scheme. Another unexpected, and therefore weighty, protest came from clinical professors, who cannot be said to be influenced by financial considerations. The entire medical faculty of the University of Vienna has been unanimous in warning the Government that every professor and clinical teacher would resign his post if such a scheme came into force without securing for the medical staff due influence in regard to all matters appertaining to appointments, research, treatment, and outfit; they demanded likewise an increase in the number of medical men on the managing board. These energetic protests on the part of the profession have aroused the interest of the general public and drawn attention to the possible results of so insidious a scheme; and it is now certain that the objectionable features of the proposal will be entirely eliminated. Nevertheless, this incident has served as a danger signal to warn the medical men of this country to keep a sharp look-out in the matter of their own interests and position.

A few weeks ago, upon the anniversary of our venerable Emperor's accession to the throne, a new water supply was opened for the city of Vienna. It has hitherto given the greatest satisfaction, the water being of excellent quality, and both safe and pleasant for drinking purposes. It comes from a range of snow-clad mountains over 6,000 ft. high, some 120 miles to the south-west of Vienna, and is brought to the city by means of aqueducts and siphons. Its temperature, which is gauged at the reservoir near Vienna, is always 8° C., and the supply available for each day amounts on the average to 200,000 tons; even during the summer droughts it never falls below 160 000 tons. This is the second overland water supply possessed by the city of Vienna. The older waterworks, which derive their water from a snowy group of mountains in the Alps, provide a daily supply of 180,000 tons. The two kinds of water resemble each other closely, and at present are mingled together. The united waterworks are capable of supplying sufficient water for nearly 4,000,000 people at a daily rate of 250 pints of water a head; and it has been estimated that no water famine can possibly occur in Vienna until the year 1940, at the very least, when the population will have amounted to 4 000,000. The new water supply has cost some 100,000,000 crowns, or over £4,000,000; but the beneficial effect upon the health of the population of Vienna, even after the opening of the old waterworks, was so evident that this recent expenditure cannot be regarded in the light of an extravagance.

THE Women's Institute of Medicine at Kharkoff was formally opened quite recently. The Kharkoff Medical Society, which was founded in 1861, has always been in favour of the admission of women to the medical profession. Some 400 women students having expressed a wish that a school of medicine for them should be established at Kharkoff, the Medical Society, on May 21st, 1910, decided to found a Superior School of Medicine for Women. In August this project was carried into effect, the name of the school being changed to "Institute of Medicine for Women." The courses of teaching were begun on November 14th, and at the present time there are 977 matriculated students.

Correspondence.

RHEUMATIC PURPURA AND PELIOSIS RHEUMATICA.

SIR,—I must express my thanks to Dr. R. Miller for his letter of February 11th commenting upon a recent paper of mine upon rheumatism published in the BRITISH MEDICAL JOURNAL of January 7th. When deeply interested in a subject, one feels it a compliment to have notice taken of one's opinions or views. Dr. Miller pointed out a lack of precision in my remarks upon peliosis rheumatica. I admit to much difficulty in understanding the etiology of purpura, including this form. Reviewing the cases I have seen and noted, I am inclined to the view that this condition may be truly rheumatic in origin, and the evidence seems a little more convincing than that I possess on erythema nodosum. For example, a woman, aged 45, came to University College Hospital with a purpura of the peliosis type. She gave a well-marked history of rheumatic fever and repeated attacks of rheumatism. There was obvious mitral stenosis. Except for a sore throat I found no other signs of active rheumatism, and simply noted the purpura in my book as an interesting fact. A year later she came to the hospital again, this time with purpura and a well-marked multiple arthritis of the rheumatic type. It must be confessed that this case is not convincing, but it is very suggestive that the first attack of purpura was a rheumatic event. Dr. Miller asks me, however, a direct question as to my teaching upon peliosis rheumatica, and to this my answer is that when I see a case with no clear evidence of rheumatism I point it out as a condition in which I strongly suspect the future development of definite rheumatism, but one which I am not prepared to say is an evidence of the actual disease. Should it occur with obvious rheumatism I look upon it at present as a rheumatic symptom. This is, perhaps, illogical, yet the occurrence of purpura is a result of so many diseases that it hardly seems possible to me at present to claim that peliosis rheumatica is not sometimes, and possibly often, rheumatic. The etiology of rheumatism is still in a very unsatisfactory position. We are in great need of more independent evidence upon the diplococcus, for however confident one may be oneself, it is not to be expected that there can be general assent until more facts have been recorded. When this cardinal step has been made—as I trust it will be—and the work of Walker, Shaw, Beattie, and Paine and myself proved correct, there will come what one cannot help foreseeing—a differentiation of strains or types of infection, subtle differences in the poisons formed by the streptococcus, the results of epidemic or seasonal influences, of age and sex influences.

At present, if the explanation is correct, it is but the crude truth, a generalization, as it were, to the effect that rheumatism is in the main the result of a special streptococcal group of infection.—I am, etc.,

London, W., Feb. 12th. F. J. POYNTON, M.D.

THE CAUSE OF APPENDICITIS.

SIR,—Probably we have all been interested in reading the various suggestions and theories recently advanced by correspondents of the JOURNAL to explain the increase of appendicitis.

Whilst some correspondents have suggested its connexion with rheumatism and influenza, others have suggested as causes sitting on damp seats and the more strenuous life now led. But, without doubt, what is more to the point is a due consideration of what is taken into the alimentary canal, for it is there that the trouble is, and, as one of your correspondents puts it, "dietetic errors leading to vicious processes in the intestinal laboratory, with constipation and its consequences, explains much in the causation of appendicitis."

The fact that there is a comparatively small amount of appendicitis in those who eat little or no meat is important, and most à propos at this time comes the very interesting and valuable report of Dr. Owen Williams on the distribution of appendicitis, with some observations on its relation to diet, published on December 31st, 1910. As the result of very extensive inquiries, Dr. Williams has come to the conclusion "that diet plays a definite part in the production of the disease, and that animal food seems to be associated with an increased number of cases." It has been pointed out as rare amongst Roumanian peasants living mostly on vegetables, but Roumanians living in the city chiefly on animal diet are frequently affected, for there is said to be one case of appendicitis in every 221 patients. Again, the vegetarian diet of the Japanese, and of the Indians of India, seems to protect them from appendicitis. In this country the well-to-do classes are more frequently affected than the poorer classes, as Poor Law hospital reports show, and probably food differences account for this.

Granted that food conditions are the primary cause of appendicitis, it is unreasonable to conclude that the appendix of the colon is alone affected, for there is evidence of the whole colon being in a state of catarrhal inflammation in not a few cases. In a previous contribution,[1] I have shown a connexion between appendicitis and mucous colitis, and more extensive experience points to this more strongly. If we except Plombières and Chatel Guyon, more cases of mucous colitis are seen at Harrogate than anywhere else in Europe, and I am more and more struck by its association with appendicitis. During the last two years I have had 21 cases of colitis under treatment after the operation for appendicitis has been performed. Moreover, I am aware of three cases of colitis under my care having since been operated upon for appendicitis. In nearly all of these cases there has been a history of colitis or constipation preceding the appendicitis, and the operation for removal of the appendix has been only partially successful. Sir Frederick Treves long ago pointed out that colitis was the principal cause of failure to relieve symptoms when removal of the appendix was unsuccessful.

Mucous colitis is more or less infectious, which explains several members of the same family having appendicitis. Last August I had the father, mother, and one daughter of a family under treatment for colitis. The daughter, aged 17, had suffered with colitis some years, and had been recently operated upon for appendicitis. A younger daughter, thought to be suffering the same way, has since been operated upon for appendicitis.

Mucous colitis is a common condition, and undoubtedly runs in families; the same predisposing nervous temperament and circumstances of food and climate probably account for it; possibly the *Bacillus coli* is the active organism in bringing about the disease in certain circumstances of the individual. Six months ago we read in the press that there was an alarming increase in the number of cases of appendicitis in the Farnham district. A doctor practising in that neighbourhood, whom I know as a most careful observer, told me that in his practice he found colitis fairly common, and gave me the following notes showing its association with appendicitis in 3 cases under his care:

E. C., aged 12 years, who had suffered from colitis for several months, had an attack of appendicitis which lasted five days, then resolved. Six months later another attack of appendicitis, very acute; operation by Mr. Edmund Owen forty-eight hours after first symptoms showed themselves; gangrenous appendix; died twenty-four hours after operation.

H. C., aged 10 years, suffered from colitis; had an attack of appendicitis; operation within eighteen hours of initial symptoms by Mr. Edmund Owen. Large swollen appendix containing small stercolith was removed; uninterrupted recovery.

S. C., aged 8 years, suffers from colitis.

These are the only three children of a mother who suffers from colitis.

Another case in a child observed elsewhere by Dr. Leonard Parsons is also interesting:

A child, aged 6 years, constipated since a baby; mucus in stools since 2 years of age; when 3 years old, passed blood in stools; since then has continually passed mucus in characteristic shreds, and constipation has been obstinate; appendix removed at 5 years of age, but mucus and constipation still exist

These cases, like many more I could cite, show a distinct connexion between colitis and appendicitis.

The formation of concretions in the appendix is largely responsible for the graver forms of appendicitis, and there may be no marked antecedent bowel symptoms. These concretions are connected with a disordered secretion of

[1] Mucous Colitis and its Relation to Appendicitis and Pericolitis. BRITISH MEDICAL JOURNAL, July 11th, 1908.

the mucous membrane of the appendix, and frequently of the colon also, and it is to this I wish to draw attention, for a large experience of cases of mucous colitis has convinced me that insufficient attention has been given to excessive secretion of mucus from the bowel. I have not infrequently heard it said by medical men that every one passes mucus, which is quite true; but mucus, when normally secreted, should be invisibly mixed with the faeces, and when it is seen in any quantity, except after some strong purgative, it is abnormal, and usually constitutes the condition of mucous colitis.

Owen Williams has pointed out[2] that these concretions called "intestinal sand" consist of calcium salts which are excreted by the intestinal mucous membrane, and which enter into combination with the saturated fatty acids of the food to form insoluble compounds. He has shown that these calcium soaps are found in this mucus in the appendix, and, further, that they are actually deposited in large quantity in the submucosa of the appendix, thus cutting off the blood supply to the mucous membrane, and so rendering the invasion by organisms an easy matter. Kelly also says:[3]

> The histological examination shows that the most important factor in the formation of the calculus is the mucus secreted by the glands of the mucous membrane. The mucus, which is deposited in layers round the central nucleus, becomes desiccated, and the lime salts are deposited secondarily.

Ribbert noted that in favourable specimens the outer layers of mucus may be seen to be directly continuous with the glands of Lieberkuhn, and in one case, besides two large enteroliths in the canal of the appendix, he found three smaller bodies embedded in the mucous membrane which had evidently developed within gland lumina.

Dr. Owen Williams has not been able to determine what fatty foods are blameable for these pathological changes, but we may fairly conclude that an animal diet favours them rather than a vegetable one. A predisposition to infection is evidently produced under certain circumstances which we cannot exactly determine, but there is evidence pointing to meat-eating at least as contributory.

I cannot exaggerate the evils of constipation in altering the normal secretory function of the mucous membrane of the colon, and making it more liable to infection. I am fully aware that this condition not infrequently dates from an attack of colitis, but when once established, whatever be its primary cause, the resisting power of the mucous membrane against bacterial invasion is undoubtedly diminished. Constipation, associated with retention of hard scybalous masses acting as foreign bodies, sooner or later produces a catarrhal inflammation of the colon which may easily extend to the appendix. To counteract this, instead of adopting natural means, we have in the present day a pernicious habit of "aperient drinking." Not infrequently when I ask a patient if the bowels are regular, the reply is in the affirmative, with the explanation that a cascara tabloid is taken every night, and this represents the natural daily evacuation. Such a drug habit must induce a certain amount of irritation and abnormal excitation of the mucous glands, and the sooner it can be replaced by natural means to overcome constipation the better. Space will not allow of my entering upon this part of the subject now, and it was fully considered in a special discussion at the last annual meeting, already published in your columns, in which I was invited to take part.—I am, etc.,

Harrogate, Jan. 20th. ALFRED MANTLE, M.D.

SIR,—The correspondence which has taken place in the JOURNAL under this heading is of very great value to the general practitioner, and of very great interest in showing the striking difference of opinion as to the causation of this now common disease.

There appears to be a general agreement that appendicitis is more common to-day than it was twenty-five years ago, and the natural tendency has been to look for a cause definitely connected with the altering conditions of modern life. Some ingenious suggestions have been made notably:

1. That it is due to eating animal foods in a state of decomposition, such as high game, etc. It should be easy to test the value of this by inquiring if appendicitis is more common in those classes who eat high game, and if it is more prevalent in the months in which game is eaten. I do not think that it has been suggested that appendicitis shows a preference for any class, nor have I ever noted that it has a seasonal prevalence.

2. That it is due to imperfect or incomplete evacuation of the bowel. In Dr. Charles McBurney's article on "The Surgery of the Vermiform Appendix," in the *International Textbook of Surgery*, is to be found the following passage: "It is rare to find any but the slightest amount of material in the caecum in the operating room, at autopsies, or upon the dissecting table," and further on the confirmation "that it is more common in men than in women in the ratio of 4 to 1." These facts do not seem to suggest that constipation can be a great factor in the causation of this complaint.

3. That it is due to excessive meat-eating. If this is so, it should be easy to show that those who eat most meat are more prone to the disease—for example, butchers and navvies.

4. That it is due to the failure to assume the natural position during defaecation. Admittedly there has been a great increase in the number of cases in the last twenty years, but the inhabitants of Great Britain have used the sitting posture for a very much longer period than that.

5. That bottle-feeding has been substituted for wet nursing. If this is a cause, surely its effects would be most evident during the time that the intestinal canal is struggling with its unnatural food; but we find that appendicitis is very rare in infants under 2 years of age, though it has been found as early as 7 weeks.

6. That the lymphoid tissue in the mucosa is particularly prone to bacterial infection and inflammation, notably by the germs of influenza, rheumatism, and tubercle. That this is probably a cause of the disease would be hard to deny, but, as some of your correspondents have pointed out, influenza is not a disease originated in the last twenty years, neither, I may add, is rheumatism nor tubercle.

7. That it is a degenerating organ undergoing evolutionary decay. But evolution is such an extremely slow process that one cannot believe that twenty years would make the difference between resistance and non-resistance to the ordinary stresses of an organism.

Appendicitis is not a modern disease. In turning over the leaves of an old book on medicine by George Fordyce, M.D., F.R.S., written in 1791, I found a complete description of an attack of appendicitis under the heading, "The Inflammation of the Intestines." Speaking of suppuration, "There is a greater chance of suppuration taking place in the colon than in the duodenum, jejunum, or ileum. The abscess may burst into the cavity of the abdomen or into the intestinal canal," etc.

Is it not worthy of note that the increase of appendicitis has gone on side by side with the decrease and total disappearance of two other diseases—namely, idiopathic peritonitis and perityphlitis?

My opinion is that this is one cause for the increase of appendicitis. I remember twenty-five years ago being taken by an old practitioner to see a case of "idiopathic peritonitis." He told me the method of treatment was to give opium, and that the patient always died.

Further, it appears that the rank and file of the profession are now fully alive to the fact that the safety of their patients lies in early operation, and hospitals and consulting surgeons who record their cases are fed with cases which formerly would have been allowed to take their chance without surgical aid. I believe I am right in saying that 80 per cent. of the cases operated on would probably recover without operation. It is this 80 per cent. that accounts in great measure for the large increase in the number of recorded cases.—I am, etc.,

Bridgend, Jan. 26th. ROBERT J. SIMONS.

P.S.—In speaking of influenzal infection as a cause of appendicitis, I would like to add that thirteen years ago, in this town of 6,000 inhabitants, I had the opportunity of showing to my friend, Mr. Lynn Thomas, one Sunday afternoon, 5 cases of appendicitis, all post-influenzal. Mr. Lynn Thomas removed a gangrenous appendix from one of my cases that afternoon, and subsequently two more of the cases experienced his surgical skill.

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[2] *Bio-Chemical Journal*, vol. ii, p. 395, 1907.
[3] Kelly, *Vermiform Appendix and its Diseases*, p. 300.

THE TREATMENT OF MORPHINOMANIA BY THE COMBINED METHOD.

SIR,—Before Dr. H. Crichton Miller publishes his next article on the above subject I would like to have one or two points explained, and to state wherein my experience differs from his views as stated in his first paper in your JOURNAL (November 19th, 1910).

1. What does Dr. Miller mean by an average case of morphinomania whereon he founds his treatment? Is it the amount of morphine taken or general condition of patient?

2. Has he personally come in contact with morphinomaniacs who take the morphine to produce the effects he speaks of—namely, "the fascination of exhilaration and intensification of the imagination"? I have had over ten years' experience in the treatment of morphinomaniacs, and I have never yet met one who took it for this reason. Every one takes it because it makes them feel well—that is to say, normal, and because if they leave it off the misery caused by the abstinence drives them back to it.

3. Why does Dr. Miller insist on the cure being painless? In my opinion the pain and distress which arises in the cure is valuable as a deterrent to resumption of the habit.

4. Why does not Dr. Miller place in his primary essentials the willingness of the patient to be cured? All treatment I have found is valueless without this; I grant that he does mention it, but merely as a secondary essential. I differ from his statement that "most patients desire to be made to feel well, but not to be cured." I have found most patients desire to be cured, in order not only to feel well, but to be free from the slavery of the habit with its attendant risks.

Dr. Miller is right in saying treatment should be carried on in a nursing home; but I go further by saying that the position and equipment of the nursing home must be specially selected, and, above all, a medical man well versed in the treatment should reside in the home.

Dr. Miller's treatment consists practically of drugs on the physical side and hypnotism on the psychical.

The drug he advocates is sodium bromide. My experience is that bromides and depressants of all kinds are contraindicated. To bring the patient into a comatose or semicomatose state is, I believe, unsound and unwarrantable. A person who has taken morphine for a long time is not one on whom you can put a strain or take liberties with. This treatment is advocated to relieve the patient of distress and pain, but if treated in the ordinary way I do not think the patient suffers so much as to warrant it.

Both Dr. Miller and Dr. Astley Cooper, I think, lose sight of the fact that there are two distinct stages in treatment—namely, the stage where reduction and abolition takes place; and the second stage, where recovery occurs, the mind restored, and the will power built up.

As I have no faith in bromides, I have less faith in hypnotism as advocated by Dr. Miller. It is absurd to try it on a patient who is actively taking the drug, it is of little use when the drug is being abolished, and it is of no use in effecting a permanent cure. I have had many cases of inebriates and narcomaniacs who have undergone hypnotic treatment without the slightest betterment; I have met a few who have been improved or cured by hypnotism, but who, I believe, would have been cured without it.

I will now detail my method, and the difference between Dr. Miller's treatment and mine will then be obvious.

1. I put the patient to bed the second day after admission in a well-ventilated room, bright and cheerful, and removed from any noise, with a cheerful nurse in attendance.

2. For the first three days I attempt no reduction. On the fourth day I slightly increase the amount of morphine per dose, but lengthen the period of abstinence so that the quantity in the twenty-four hours is the same. I continue this until the patient gets only three doses in the twenty-four hours—namely, at 8 a.m., 4 p.m., and 11 p.m.—but the quantity is not decreased. This, as a rule, takes four or five days to accomplish, or eight to nine days from the time that the patient has been put to bed. I then steadily decrease the amount per dose until $\frac{1}{8}$ to $\frac{1}{10}$ grain is reached; then I abolish the afternoon, evening, and morning dose in sequence. This generally takes fourteen to twenty one days, but varies according to the conditions of the patient. I have never taken longer than five or six weeks to abolish the drug.

During the early part of the treatment the patient has comparatively little discomfort or real illness, but as reduction goes on certain symptoms may arise which must be treated, of which the following are the principal:

Constipation.—An ordinary aperient at night, with Apenta water in the early morning, will rectify this.

Diarrhoea.—An astringent, such as tincture of catechu, will check this.

Neuritic pains, with muscular twitchings in the extremities and abdomen, are by far the commonest. I have found drugs of little avail here; but gentle massage, hot baths, and sponging with warm water are most useful in allaying this condition.

Insomnia.—I find isopral, in 15 to 25 grains, the most useful hypnotic in treatment of insomnia caused by morphine abstinence.

Tendency to Coma.—Digitalis or strophanthus I find most useful.

Mental Distress.—Constant attention by the physician and nurse will greatly assist to alleviate this symptom.

Delirium.—I find hydrobromide of hyoscine in $\frac{1}{150}$ grain doses most useful.

In short, treat the symptoms as they arise in the ordinary way. There is no special knowledge required to treat the morphinomaniac except the experience required to know how and when to reduce the drug.

These symptoms rapidly abate after the complete withdrawal has been accomplished, and the second stage is entered into. Convalescence is secured by the ordinary means of any patient recovering from an illness. Nerve tonics are given, nourishing diet in an appetizing form, fresh air with gentle exercise, massage, attention to the bowels, and, above all, freedom from worry or care. Having got the patient's health in a measure restored, the use of auto-suggestion is of value to secure a permanent cure. Inculcate an adverse attitude towards the habit, let the patients constantly bring their mind to think of resumption of the habit or taking a single dose with repugnance and as an act disastrous to themselves. During this time protect the patient from temptation. If the patient by constant endeavour persists in this mental attitude for six to nine months, cure will be effected. This treatment combines the physical and psychical method, but in a very different way to that advocated by Dr. Miller.

In conclusion, I say that I follow a rational method, and have no belief in those out-of-the-way methods advocated, especially by some American medical men.—I am, etc.,

JOHN Q. DONALD,
Medical Superintendent, Invereden Sanatorium.
Dairsie-by-Cupar, Fife, Jan. 16th.

SURGICAL TREATMENT OF DISPLACED SEMILUNAR CARTILAGES OF THE KNEE.

SIR,—I read with great interest Mr. D'Arcy Power's Hunterian Lecture on the results of surgical treatment of displaced semilunar cartilages of the knee, published in the JOURNAL of January 14th. As examples of the perfect functional result which may be obtained, I might mention that two players in the winning team, in the recent International Association football match between Wales and Ireland, were cases in which I had removed the internal semilunar cartilage.

I think there is no objection to freely opening the capsule by a transverse incision if it is sutured accurately afterwards. I have found reindeer tendon better than any other suture material in common use. Early active movement is encouraged, and the patient is allowed to walk in three weeks. I have operated on nearly fifty cases, and the only bad result was one in which tubercle developed later in the joint.—I am, etc.,

Blackburn, Jan. 31st. R. Y. AITKEN.

SALVARSAN ("606.").

SIR,—In his letter to the JOURNAL of February 11th Dr. Pernet advocates the combined treatment of syphilis with salvarsan, mercury, and iodides. Eclecticism is always a sound principle in medicine, and it is well, as Dr. Pernet remarks, to keep an open mind towards a new drug; but has not "606" fallen from its high estate? Instead of posing as an abortive cure of syphilis and a substitute for mercury and iodide, it is now asked to play the part of an auxiliary drug. If this is the only position this much-vaunted preparation is to occupy in the treat-

ment of syphilis, it seems to me we had better remain faithful to our old friends Donovan and Fowler, who have so often rendered us useful service, than expose our patients to the many dangers of salvarsan. It would almost appear that Dr. Pernet's apt simile of "therapeutic rockets which come down like sticks" might be applied to "606," but in this case an attempt is made to check its fall by means of a parachute of mercury and iodides!—I am, etc.,

London, N.W., Feb. 11th. C. F. MARSHALL.

THERAPEUTIC ENTHUSIASM.

SIR,—I have been reading in a venerable tome the hopes of our far forefathers as to the benefits that would accrue to a world of pain and disease from the then recent discovery of opium as a panacea for pain. As in all medical advance, the vanguard got out of hand, and what was only reason for hope was transformed by disordered enthusiasm into a fact of assured healing which the implacable years have not—in the sense of that irresponsible optimism—confirmed. It seems desirable, in face of the hysteria of assertion of the lay press, to warn the world of the lack of the sense of proportion which is to-day the apparent vogue as to the possible benefits and ulterior limitations of what we call "606." It is really quite dreadful to have to listen to the positive pronouncements as to its quite unproven virtues, which you may hear, if you care to listen, in any assemblage of lay gentlemen to-day. And when you gently dissent from the sweeping conclusions which they give as facts admitting of no contradiction, you are often (or usually) silenced by a reference to some "doctor who has told them so"!

But the medical Munchausen is always on tap with certain people when they wish to sterilize incredulity by the unworthy antiseptic of unwarrantable reference to the authority of an honoured but absent man! The world is full of slander, I know, and the slander is not always personal. There is a form of impersonal slander which—as in the *Zadig* of Voltaire—slanders by the creation of imaginary virtues. That is bad enough, but what is much worse is to raise hopes which you are not sure you can satisfy. But it is still true that the verifying of a fact is not easy. "The seed-time and harvest, the early and the latter rain" still represent the eternal prohibition against "raw haste, half-sister to delay."—I am, etc.,

February 7th. G. H. R. D.

TUBERCULIN AND SANATORIUM TREATMENT.

SIR,—I endorse most thoroughly the views expressed in the excellent letter of Dr. Mariette published in the JOURNAL of December 31st, 1910, under the heading "Progressive Doses of Tuberculin." For some years past I have made extensive use of tuberculin in increasing doses to the full extent to which it can be taken with advantage by the patient as a regular part of the treatment of tuberculosis in this sanatorium, and with excellent results. I find that there are few patients who are not benefited to some degree by it, but the extent to which it can be pushed varies considerably in different cases, and what is finally the full dose for some patients may in others be doubled or even trebled with great advantage. In every case, however, it must be administered with care and a close watch kept on the patient's temperature (which in this sanatorium is taken in the rectum at fixed hours four times daily), his pulse, and general condition, while the remedy is being used. It is of considerable importance to determine when the dose has been reached which produces the best effect, and must be ascertained for each individual patient. Personally, I believe that I get more reliable information as to the effect of the remedy from the temperature and clinical condition of the patient than from the opsonic index.

In the cases usually sent to sanatoriums which respond favourably to tuberculin, the patient's stay is, as far as I can judge, reduced by about 25 per cent. to what it was before tuberculin was used. It thus not only makes sanatorium treatment more effective, but also reduces its cost.

In more advanced cases, where the temperature is high or markedly oscillating, the effect of tuberculin of any kind is less certain in bringing about improvement. Sometimes it acts very beneficially; in other instances it does not seem to produce any improvement. To these patients I give it in much smaller doses than in non-febrile cases, and increase the doses more slowly. Harm has never resulted from its use in any of my own cases, even when the disease has been in too advanced a stage to be ultimately influenced by any treatment, and in some of these cases improvement, not attributable to coincidence, has for the time occurred under its use.

As a rule, tuberculin is administered by subcutaneous injection, and it has been asserted by some authorities that it can only be given in this way to be effective. After extensive trial I have found it to act, as has been stated by Dr. Arthur Latham, quite as well if given by the mouth in not more than two teaspoonfuls of water when the stomach has been empty for several hours (as in the morning), and no food is given for some time afterwards. Many patients who shirk the subcutaneous method of administration take it readily when so given.

I have often been asked by patients on leaving the sanatorium whether they could obtain tuberculin and continue taking it at home. I have not felt justified in sanctioning this procedure without first making arrangements directly with the medical attendant of the patient to supervise its administration. The patient then not being under constant supervision, I recommend a smaller dose to be taken than when in the sanatorium.

In the best sanatoriums the use of tuberculin is now as much a part of sanatorium treatment as proper dieting, hygienic measures, and the administration of suitable remedies to meet the various conditions which occur in the course of tuberculosis. For any medical practitioner to pit tuberculin treatment at home *versus* sanatorium treatment, to the disparagement of the latter, is as discreditable to him as it is harmful to his patients if it induces them to forego the far greater advantages offered by the latter, should that be within their reach. In the treatment of tuberculosis among the poorer classes the medical attendant has many difficulties to contend with, and has to be content with far less effective means than he would adopt were better within the sphere of possibility. Hence one welcomes the endeavours being made to extend the use of tuberculin and other means likely to make treatment more effective by the establishment of dispensaries for tuberculosis, but to expect that at these, however well conducted they may be, patients in whom the disease is in active progress will obtain a tithe of the benefits they would derive at a good sanatorium, is a delusion. The relative positions of these dispensaries to sanatoriums must ever be as regards treatment those of the out-patient department to the in-patient department of a hospital. Whenever active tuberculous disease is going on the importance of meeting the condition, as soon as it is recognized, by the most effective treatment, such as may be secured in a good sanatorium where every measure calculated to bring about a cure is available and an experienced physician is at its head, cannot be overestimated, not only for the poor but also for the rich. What the factors are in addition to the open-air life the patient leads which contribute to make sanatorium treatment so far the best for tuberculosis would take too long to discuss. The open-air part of the treatment may be carried out by almost any one who does not live in the midst of a large city, without incurring much expense. But what for obvious reasons the poor cannot get, and the rich do not get when treated at home, is the constant medical supervision under which the patient "lives, moves, and has his being" in a good sanatorium, and the systematized, yet individualized, treatment he has to follow while there. Preventing patients from doing things harmful to them, as well as seeing that they do those things which are necessary to their cure, are important duties which ever require close attention from the physician in charge of a sanatorium. These are just the things which in private practice the medical attendant cannot secure being carried out properly, however careful he may be in the directions he gives. The patient and his friends put their own interpretation on his directions and carry them out in their own way—that most agreeable and convenient to themselves—which is more frequently wrong than right. Especially is this the case in respect to rest, exercise, and diet—matters of prime importance in the treatment of tuberculosis, in which patients invariably require much

careful training and supervision. No person who has not had practical experience in sanatorium management would believe how absolutely indifferent many otherwise sensible and well-informed patients are to their own interests and the object for which they are spending time and money, often at great sacrifice, when these run counter to their inclinations or require a small amount of abnegation. Again, when there are real difficulties in feeding due to the condition of the patient, much skill and ingenuity are often necessary. Indeed, for the proper feeding of tuberculous patients a thorough practical knowledge of dietetics, and of the proportions and values of the elements contained in the various articles of diet employed, is specially called for from the medical superintendent, who should not only determine the kind and quantity of food each patient is to have, but also superintend the patients' meals.

A cheap sanatorium may be dear at the fees charged, and high fees are not a guarantee of efficiency. For the best sanatorium treatment there is certainly no need to go to Switzerland, and in most cases the patient will for many reasons do infinitely better by remaining in his own country in which he has afterwards to live. Finally, it is of importance for the patient that there should be unity of action between his medical attendant and the sanatorium physician under whose care he is placed.—I am, etc.,

J. G. GARSON, M.D.

Moorcote Sanatorium, Eversley, Hants. Jan. 31st.

TUBERCULIN AND TUBERCULIN DISPENSARIES

SIR,—As the author of this new system of dealing with tuberculosis, especially pulmonary tuberculosis, among the poor, I trust I may be allowed to present to your readers a criticism of the communication by Dr. Pringle, of Ipswich.

For some occult reason Dr. Pringle has given us a filtered extract of the opinions of various medical superintendents of sanatoriums, and has then proceeded to make a number of *ex parte* statements, some of which are wholly incorrect, while Dr. Pringle has avoided any reference to direct evidence bearing upon the system of tuberculin dispensaries, concerning which he presumes to draw conclusions.

First, he calls as witnesses the very men who, if loyal to their institutions, must uphold the system they represent. Yet even these men in advocating tuberculin contradict Dr. Pringle's subsequent statement that direct attack of the disease has been found at the present time (*sic*) hopeless. Next, they all agree with me in saying that "in mixed infections and in acute febrile cases (as a matter of fact almost all acute febrile cases are mixed infections) tuberculin is contraindicated." No one has insisted so energetically upon this point as I have done for fully thirteen years. Tuberculin as a remedy is specific, and can have no effect on mixed infections—indeed, may do harm in such cases. In nine months' work at my tuberculin dispensary we have had five such cases, and two or three months' experience at the dispensary teaches the medical man how to recognize them. I do not know any other institution where the general practitioner can learn so easily and so quickly the real meaning of mixed infection. On this account alone, tuberculin dispensaries should be utilized by the general practitioner.

Thirdly, the medical superintendents coolly inform Dr. Pringle that tuberculin cannot be safely and properly given at a dispensary. How do they know? Have they tried? If not, what value can be given to their mere *ipse dixit*, when there are a number of competent witnesses who have themselves seen, and many of whom have themselves given, tuberculin at dispensaries month after month for many months, not only without any accident, but with very striking benefit to patients in all stages of pulmonary tuberculosis.

I will mention a few of these witnesses: Dr. L. E. Creasy (London), Colonel Treherne, R.A.M.C., Dr. Hilda Clark (Street), Dr. James Wilson (Irvine), Dr. Annie McCall, Dr. Vivian Orr (London), and Dr. Barber (New Barnet). I might also mention Dr. Duigan and Dr. Counsell of Oxford, and Dr. Prichard of Banbury. All of these witnesses have watched the effect of tuberculin under my system for many months. Is their evidence of no value? Such direct and relevant testimony is set aside, and instead we have the mere secondhand evidence of men who have literally had no experience, and have merely supplied opinions and comments that no court of justice would accept. Yet Dr. Pringle has the coolness to dignify his *ex parte* commentary with the name of an inquiry. He should have called it an "impartial" inquiry.

Fourthly, the medical superintendents say "emphatically" that tuberculin dispensaries cannot displace sanatoriums. Tuberculin dispensaries will have more than enough to do without attempting to displace sanatoriums. If tuberculin dispensaries merely replaced sanatoriums they would be relative failures, for sanatoriums can hardly touch the fringe of this widespread disease. Sanatoriums can hardly deal with 5 per cent. of the cases of tuberculosis among the poor. Thus, without replacing sanatoriums at all, tuberculin dispensaries have to treat the remaining 95 per cent. of the cases which Dr. Pringle and the medical superintendents calmly ordain to be left untreated because sanatoriums cannot take them. This is neither just to tuberculin dispensaries nor merciful to this huge majority of sufferers.

Fifthly, tuberculin should only be given at sanatoriums. This at any rate is a curious commentary upon my labours during the past nineteen years. I have proved beyond all possibility of error that tuberculin can be used with perfect safety and with very great success at dispensaries, even without any sacrifice of occupation or wage. Dare Dr. Pringle and all his medical superintendents face me, and my witnesses on this extremely important point before any court of inquiry conducted in accordance with the laws of evidence? If a commission were appointed, at what value would their evidence be assessed? Medical papers may print irrelevant evidence and illogical deductions, but, to adapt Mr. Asquith's recent words, Dr. Pringle's one-sided and distorted views upon the function and utility of tuberculin dispensaries is "of a piece with the persistent and incurable sloppiness in matters of fact which characterizes this sanatorium agitation from its inception down to the present moment."

Let us now deal with Dr. Pringle's own observations. He says, "It is clear, therefore, since direct attack has been found to be at the present time (*sic*) hopeless." Now, tuberculin treatment is spreading everywhere, and Dr. Pringle ventures thus into controversy. Does Dr. Pringle understand what "begging the question" in argument means? The work of Professor Koch, Petruschky, Kitasato, Spengler, Denys, Rembold, Bandelier, Moeller, and of my humble self prove incontestably that direct attack is not hopeless, but achieves results that can only be described as brilliant (see my paper in BRITISH MEDICAL JOURNAL, November 26th, 1910). But Dr. Pringle knows more than all of us. Again, "Experience shows that we cannot hope for cure, if the patient continues to exist under the conditions which caused the disease." Begging the question again! What are "the conditions that caused the disease"? Would that we knew! Does tuberculosis never occur in the apparently healthy who have been well fed and apparently lived healthy lives, even in the open air? I regret to say that exposure to infection is quite consistent with apparently healthy surroundings, and disposition to tuberculosis is independent of environment.

Again, "It is a most extraordinary coincidence that men who have devoted years to the study of tuberculosis, etc., have all apparently failed to realize the true curative properties of the remedy." The great exemplar is Dr. R. W. Philip; by the side of Dr. Philip—Professor Koch, Kitasato, Petruschky, and hundreds of others are of no account. Dr. Pringle's knowledge of literature is deficient if he imagines that there is any truth at all in his sweeping statement.

Dr. Pringle had better study logic and the law of evidence, and then come to me for evidence that will help him to the truth upon the value of tuberculin dispensaries in helping the poor who suffer from tuberculosis in its various forms. The poor are asking for bread, and Dr. Pringle and his medical superintendents are offering a stone.—I am, etc,

W. CAMAC WILKINSON, M.D.Lond., F.R.C.P.

London, W., Feb. 13th.

P.S.—It may interest the profession to know that the Portsmouth Council, guided by the direct evidence of Dr. Mearns Fraser and the Mayor, has adopted my scheme instead of the sanatorium system, with only one dissentient.

CONTINUOUS ANTISEPTIC INHALATION IN PULMONARY TUBERCULOSIS.

SIR,—In the thoughtful and carefully reasoned paper on tuberculin dispensaries by Dr. Pringle, of Ipswich, in the current number of the BRITISH MEDICAL JOURNAL, it is stated that "it has long been recognized that the treatment of pulmonary tuberculosis by direct attack upon the tubercle bacillus holds out, in the present state of our knowledge, no hope of success." This statement expresses what is the almost unanimous opinion of the medical profession at the present time. Yet I venture to claim that the statement is no longer true. From an experience of 50 cases treated by the method of continuous antiseptic inhalation, and reported in the JOURNAL for December 11th, 1909, and in the *Lancet* for November 19th, 1910, I am convinced (and the conviction is strengthened by the results of many cases similarly treated by others) that, under the use of this method, cough and sputum are quickly diminished, the temperature soon falls to normal, there is a rapid gain in weight, the dull areas lessen, and tubercle bacilli are less easily found by the microscope, and they gradually disappear altogether.

It seems to me to be proved that this method of treatment has certainly the power of inhibiting the development of the tubercle bacillus in the lungs, and of bringing to an end the morbid process caused by it. In a paper on the conquest of tuberculosis, written (by request of the editor) for the January number of the *British Journal of Tuberculosis*, I have pointed out that in the employment of this treatment it is not necessary to keep the patient in bed for a long time, or in a condition of enforced idleness; also that, if the patient has an airy bedroom and keeps his windows open, the treatment can be carried out successfully in his own house. This fact, with the absence of enforced idleness and the much smaller expense, is a very great gain. Even in very advanced cases, in which it is hopeless to expect a cure, the adoption of the inhalation treatment often gives much relief, helps to limit the spread of infection, and enables the patient to do light work for himself or others for a much longer time.—I am, etc.,

London, W., Feb. 11th. DAVID B. LEES.

ALCOHOLISM AND DEGENERACY.

SIR,—We observe in your issue of February 4th a letter from Miss Dendy referring to the materials supplied by her to Professor Karl Pearson.

We have frequently pointed out that as these materials have been freely used for discussion of public and scientific questions by Professor Pearson and others their publication was desirable.

In our paper of January 14th we showed that there was no reason to suppose that Miss Dendy's notes contained the data which were essentially necessary for Professor Pearson's and Miss Elderton's inquiry.

In response to our request, Miss Dendy has kindly sent for our inspection the materials furnished by her to Professor Pearson. We find that these records consist of briefly filled up sheets for admission during the last decade to an institution for feeble-minded children. The inquiries on the sheets have clearly never been designed as a basis for a study of parental alcoholism and its effects, nor are they adequate for a study in eugenics. They contain none of the data on parental alcoholism necessary for Professor Pearson's and Miss Elderton's inquiry, and no class of non-alcoholic parents can be obtained from them.

Even the descriptions of the present states of the parents are very incomplete and almost always ambiguous. (This was partly admitted by Professor Pearson and Miss Elderton; see p. 28.) The materials are, in fact, quite useless for the purpose to which they were put by Professor Pearson and Miss Elderton, or for the study of the relation of alcohol to the question of feeble-mindedness in children, and certainly are not worth the cost of printing.

In conclusion we desire to enter a remonstrance against the repeated use by Professor Pearson and Miss Dendy of the distinguished name of the late Dr. Ashby as a guarantee of these records. There is no proof that he made himself responsible for their full accuracy; on the contrary, the vague and unscientific terms used in the family details plainly show that he did not.—We are, etc.,

London, W., Feb. 13th. MARY D. STURGE.
VICTOR HORSLEY.

THE CHOLERA IN MADEIRA.

SIR,—As a medical practitioner in Madeira of fourteen years' standing and as a member of the British Medical Association, I should like to give you an account of the cholera epidemic from which we have been suffering and which, I am glad to say, is now on the wane. The grossly exaggerated reports which have been published in the English and Continental press render it advisable that the true facts should be placed before your readers.

I will not comment upon the vexed question as to the mode of entry of the illness; the first cases manifested themselves in September last in Funchal, and for two or three weeks the disease made little progress, but after this it spread rather rapidly amongst the lower class of inhabitant, and soon radiated to the other parts of the island; and this is not to be wondered at considering the amount of traffic between the capital and the country districts.

The local authorities immediately took precautions to isolate the patients and telegraphed for assistance to Lisbon. Dr. Carlos França, a distinguished bacteriologist, was sent out, and this gentleman soon isolated the comma bacillus from the dejecta of patients sent to him for examination. Other medical men and nurses were sent to Madeira, and a large isolation hospital, the Lazaretto, was prepared and opened for the reception of cases and placed under the control of Dr. Lomelino, who has done yeoman service during the outbreak; Funchal was divided into zones, each being assigned to a different doctor, whose duty it was to visit the houses, see that the sanitary conditions were in order, notify any cases of cholera, remove or destroy all rubbish heaps, dirt, or foci of infection, disinfect ponds containing stagnant or dirty water, give the names of all contacts to the sanitary authority, and disinfect the homes of any person who might contract the illness. If the dwelling-places were such that patients could be conveniently isolated, they were treated there; if this were not the case, patients and contacts were removed to the Lazaretto and not allowed to leave until a bacteriological examination of their dejecta gave a negative result. Afterwards, in order to avoid the necessity of carrying cholera cases from the country through Funchal, various other isolation hospitals were established in different parts of the country.

Some of the articles printed in connexion with the outbreak comment upon the dilatory conduct of the Lisbon Government in sending disinfectants and other help to the island. This is manifestly unfair. It must be borne in mind that the Republican Government has been but newly established, and has naturally many difficult problems to deal with. The fact of cholera having broken out in Madeira must have come to them as a veritable bombshell. When once they realized the state of affairs they did everything in their power. As the armed force available in Madeira was considered inadequate to maintain order, a cruiser was sent out, and eventually a force of 650 men. These latter will probably be engaged in forming sanitary cordons and compelling the relatives of cholera patients to consent to the removal of their friends to the isolation hospitals, a proceeding which the ignorant classes resent. The graphic descriptions of fighting and bloodshed between the troops and the populace are due to the vivid imaginations of those who give credence to every popular rumour which is bound to be heard on an occasion like the present. That there have been disturbances is certain, but the populace have listened to reason, and, as far as I know, no one has suffered even a minor injury.

The number of cases up to date is roughly 1,500 out of a population of 150,000. This gives a proportion of 1 per cent. of the entire population attacked, the death-rate is between 30 and 35 per cent. of the cases, this giving a cholera mortality of 0.3 per cent. of the entire population in Madeira; no one can say that these figures are formidable.

It is impossible to speak too highly of the energetic measures taken to combat the epidemic by the extremely able and efficient men at the head of affairs, especially

His Excellency the Civil Governor (Dr. Martins), Dr Carlos França, already mentioned, Dr. Magalhaes, the special representative of the Portuguese Republic, and Dr. Carlos Leite Monteiro, the medical officer of health. In the cases of cholera which I have personally attended, I have had the privilege of Dr. França's advice. As far as one can judge, it is extremely necessary to get the patient under treatment as soon as possible, and the remedy *par excellence* in bad cases is intravenous injection of saline solution; this is especially useful in anuria, some cases, in which there had been no renal secretion for over forty-eight hours, having yielded to this treatment. Apart from this, the best results seem to have been obtained from a dose of castor oil as soon as diarrhoea manifests itself, and when the illness develops equal parts of hot coffee and brandy, mustard and linseed poultices to the abdomen, hot-water bottles to the feet and sides of the body, a solution of citric acid or potassium permanganate internally, hypodermic injections of strychnine and caffeine, etc.; in fact, the treatment should be directed towards the relief of the profound collapse so characteristic of cholera. The injection into the bowel of a solution of tannin mentioned by some German authorities I have not seen used. The patients complain most of the cramps in the legs, these being slightly relieved by counter-irritation.

I have had no cases among the English residents, and up to now the upper class of the Portuguese have been practically immune, the simple reason for this being that their personal habits are cleanly, and that they have taken the ordinary simple prophylactic precautions.

One result of the epidemic will be the doing away with many insanitary areas, and a general cleaning up of the town, so that when we have a clean bill of health again visitors may consider Madeira as one of the healthiest invalid resorts to be found anywhere.—I am, etc.,

J. GEDDES SCOTT, M.R.C.S., L.R.C.P.Lond.

IN DEFENCE OF CONTRACT PRACTICE.

SIR,—Although much has been said on the other side, one must admit that the advocates of contract practice have not hitherto made much attempt to justify their position. For this reason I venture to ask you to allow me to reply at some length.

Let it be distinctly understood that I am only defending the principle and not the present rate of payment, which in the case of friendly and other societies is very inadequate. The fault of this lies entirely with the profession. If we had the common sense to increase our subscription to the British Medical Association, so that it could afford to secure the services of a large staff of whole-time men—one for each Branch—whose business, among other things, would be to bring into the Association every member of the profession, and to keep each Branch in touch with the central organization, and vice versa; if we had large reserve funds, and in other respects became a powerful union, it would be quite easy to dictate terms instead of scrambling for ill-paid appointments. Five guineas a year, or only 2*s.* a week, would secure us all these advantages. Is it not high time for those fortunate individuals who, owing to private means or a lucrative practice, do not feel the need for combination, to cease holding up their hands in pious horror at the idea of anything similar to a trades union, and to cease from throwing cold water on the attempts of the rank and file to protect themselves by combination?

But with regard to contract practice. On this subject I claim to speak with some authority, as I have been engaged in extensive contract practice for 26 years side by side with ordinary private practice.

First of all, with regard to the ridiculous estimate of one of your correspondents that what he calls a "parcel" of 1,500 people would require 50 visits a day. For many years I kept an accurate record of visits to contract patients, and I quite agree with "Festina Lente" that the average works out at about 10 visits a day for 1,000 people.

Secondly, with regard to the alleged slavery. Such a term can only be used by men who consider it slavery to work for a living. Of course, one has to attend to messages either from contract or private patients, but in the latter case one often spends much time and trouble only to find that eventually the patient leaves the town without remembering to pay the doctor's bill or furnishing any address. Then of course one is occasionally called to a hypochondriacal club patient at an inconvenient time for something ridiculously trivial; but the most fashionable practitioner has the same experience with his private patients, the only difference being that the latter has to spend half an hour or more in humouring a good and lucrative patient, whereas the former can in two minutes express his sentiments in good Saxon English, much to the relief of his feelings and also to the benefit of the patient.

If we are to talk of slavery, consider the slavery of the tall hat and brougham. How thankful I was when, partly owing to contract practice, I was able to escape from this bondage; and now, in cycling from one pit village to another in comfortable costume, I pity the fashionable doctor with his uniform and his half-hour visits, for the most part occupied with fatiguing small-talk. Furthermore, what about the slavery of the day-book ledger, bill book, etc., wretched office work that is most repugnant to the average medical man, and then the distasteful task of sending accounts to patients, especially those who are friends. How hateful the whole thing is! How one cheats oneself frequently in the case of poor, decent, honest people, to whom in any case the doctor's bill will entail hardship, by sending in an account for less than half the proper amount. Then the indignation one feels with well-to-do people who habitually dispute their accounts. Add to this the annoyance caused by those who never intend to pay unless forced by legal proceedings. Besides, a man must be a good clerk and keep a collector if the percentage of bad debts is to be kept in reasonable limits. I must confess that, personally, I should be only too glad if a scheme could be devised by which I could take all my patients on contract.

Then we are told that club doctors scamp their work. This is a gross libel on a large portion of the profession, and might as well be made on medical officers of health or any other salaried men. Of course, there are black sheep in every profession and every branch of it, but these are exceptions. So far from the work being scamped, a contract patient often gets more attention than those who have to pay for every visit, and who in consequence try to keep down the doctor's bill by discouraging visits and neglecting medicine, and failing to send when necessary or sufficiently early. But, apart from the morality of the thing, a club doctor who did not try to get his patient well as soon as possible would not only be a slacker, but an arrant fool, inviting more work and more outlay. In an urgent or interesting case one can visit a club patient as often as necessary without incurring the suspicion of mercenary motives, and, on the other hand, one does not have the tiresome routine of visiting a chronic case every day and spending a weary half-hour trying to think of something fresh that will interest a wealthy and exacting patient. My experience is that my contract patients look upon me as a friend, and are pleased to see me not only when they are very ill, but also at any time when I think it necessary to call.

In some quarters there is a mistaken tendency to look down on club doctors as an inferior species. In my opinion it would be a distinct gain to the profession if every teacher in our large medical schools was obliged, prior to his appointment, to take out a three months' course with some experienced club or colliery doctor—one, I mean, who does all his own work. The teacher of medicine would then learn something about the etiology of disease. The teacher of surgery would find that his pet operations could be performed equally successfully in a cottage, without any of his elaborate toilet, and under conditions he would otherwise have deemed impossible. The teacher of midwifery would no longer lag fifty years behind the times, but would be able to teach students to be useful accoucheurs instead of helpless spectators. Finally, the teacher of bacteriology would discover that Nature is not such a fool after all as he has mistaken her for, and that she created bacilli and cocci for other purposes than the spread of disease, and that he has built his theories on a wrong foundation. He might retrace his steps, and become a help rather than a hindrance to medicine and surgery.

I am under the impression that I could prove all these points from my records and temperature charts of cases; but after so long a letter I must not trespass any more on your space.—I am, etc.,

North Shields, Jan. 22nd. F. C. MEARS.

THE STOAT AND ERMINE.

Sir,—Several important physiological questions are involved in the seasonal changes in colour which certain animals undergo. By far the most definite illustration of these which we have in England concerns the winter and summer changes which take place even in this climate between the stoat and the ermine. The same animal is a chocolate-brown during summer and snow-white in winter excepting the end of its tail. Little, however, is known with accuracy as to the circumstances under which this change takes place. It seems almost certain that in England it is by no means universal, and, indeed, that it is perhaps exceptional; nor are there many records as to the precise time of year and weather conditions under which the change occurs.

We have recently added to my Haslemere Museum a beautiful specimen of the snow-white ermine, which was killed in the beginning of the present year. It has been stuffed, and is, together with some other specimens illustrating the same subject, now on exhibition. In recently mentioning it (in the *Times*) I assumed that it conclusively proved that the change did not depend upon cold, since in the present winter, for the most part, there have been no low temperatures. This, it will be seen, is an important point, for there has been much controversy, and cruel experiments have been tried in exposure of the animals to cold. I was, however, perhaps hasty in assuming that the present instance was conclusive against the direct effect of temperature. It has been pointed out to me that it is less so than I had supposed, since during the month of last November the temperature was very definitely and almost continually below the average. It was warm during December, but it may have been that the preceding month was exactly the critical one. Many members of our profession take great interest in natural history, and many of our country residents have unusual opportunities for collecting and investigating facts. The present year offers an exceptional opportunity; all specimens of these animals which are obtained within the next few months should be carefully examined and their conditions of coloration recorded. I have made many attempts to obtain them in the ermine stage, but with very little success, and my impression is that they are rare—at any rate, in the south of England; but we do not so much want rarities as precise records as to date and condition of colour, etc. All our museums and many private collections have mounted specimens of the ermine, but it unfortunately happens that scarcely any of them have the date recorded. I shall be much obliged to any of my readers who may be willing to send me the notes, either of stuffed specimens or recent ones. It may perhaps be sometimes possible to send me the recently killed animals. Such will be especially valuable, and will probably in most instances be considered worth mounting. Notes of cases, however, without specimens will be very acceptable. They should be addressed to me at the Museum, Haslemere, Surrey.—I am, etc.,

Haslemere, Feb. 6th. Jonathan Hutchinson.

THE AVERAGE MEDICAL INCOME.

Sir,—May I again ask Professor Moore to substantiate his statements about the average medical income? Seven months ago I challenged his statement in the British Medical Journal that it was well within £200 per annum, and he was then unable to give us any authority for that estimate. Now in his book, *The Dawn of the Health Age*, he says, "It is quite a liberal estimate to take the average income of the profession at £250 per annum." This may be so; I know of no reliable basis for an estimate, but I very much doubt the accuracy of this one, and I again ask Professor Moore to tell us how he has arrived at it.

It must be remembered that if an underestimate by a man of Professor Moore's eminence be allowed to go unquestioned, it will be used as a basis by legislators in any future fixation of salaries for a State medical service. Furthermore, as Professor Moore considers a large proportion of the profession to be grossly underpaid, how does he justify using the present average income, whatever it may be, as a basis for an estimate of the cost of a model State medical service?

We have a right to ask Professor Moore for accuracy; it is, perhaps, useless asking him for temperance of language, but it is necessary to protest against such a phrase as "The doctor in turn scamps the club patient's case to the last inch he can go." This phrase is scarcely covered by your remark[1] that Professor Moore "never for a moment cast any doubt on the honesty or intentions of the club doctor." If Professor Moore will descend from his academic eminence to find by actual contact what general practice is like, he will learn that some private practitioners (I believe they are few) are not so competent nor conscientious as he might desire, and that some club doctors (I know they are many) are both conscientious and competent. It is because I agree with Professor Moore in his desire for a State medical service that I feel compelled to protest against his dangerous inaccuracy, and his annoying intemperance.—I am, etc.,

Newcastle-on-Tyne, Feb. 4th. T. L. Bunting.

QUALIFIED OPTICIANS.

Sir,—My excellent colleague, Dr. Seymour Taylor, in a speech which he made at the recent dinner of the Spectacle Makers' Company, which apparently has gained wide publicity in the lay press, shows, I think, that he has ill-considered the question of the sight testing optician. He pleads for the "qualified" optician, as the mid channel which leads a certain class of the community to the haven of refractive rest, between the high fees of the ophthalmic surgeon on the one hand, and the hospitals on the other, and adds, "far better to consult an optician holding your diploma (spectacle makers) than any medical man who has not devoted special time to eye diseases."

With all deference, however, to my friend, I submit that this opinion is both retrograde and illogical. In the first place, I conceive that he will admit the premiss that the work of an optician is that of a tradesman. First and foremost, the optician's business is to sell spectacles. With this object in view, he attracts the public by generously stating that he will test the sight as well as provide the glasses that are necessary. An instance of this commercial detail recently occurred to me at the hospital. A poor man came complaining of failing sight, affirming that he had been to an optician—naming one whose advertisements appear in almost every newspaper—for glasses. The glasses, he stated, were useless, although they had been changed. On examination, I found the defective vision to be due, not to an error of refraction, but to tobacco amblyopia. Here, then, was a poor man, who had paid one guinea in two instalments for a pair of spectacles which were useless, and which, in any case, need not have cost more than 1s. 9d. from a hospital optician.

How does an instance like this support the claim which Dr. Seymour Taylor advocates?

Again, it may be asked, whence do qualified opticians derive the practical "experience" of the treatment of errors of refraction? What opportunity have they of seeing and treating the thousands of cases of this kind which fall to the lot annually of ophthalmic surgeons in their hospital work? Do the public use these opticians' shops in such crowds as to enable an expert and a trustworthy experience to be acquired, both of the treatment of errors of refraction, and of those cases of defective vision dependent upon diseases of the eye for which medical advice is needed? In short, the sight-testing optician, whatever may be said of his qualification, is exactly on a par with the prescribing chemist. Does Dr. Seymour Taylor defend counter prescribing? What would he have thought of an ophthalmic surgeon saying, for example, at the annual dinner of the Pharmaceutical Society, in a paraphrase of Dr. Seymour Taylor's sentence above quoted, "Far better for the poor to consult a chemist holding your diploma than any qualified medical man who charges fees for advice and medicine." But if "qualified" opticians, why not "qualified" chemists, chemists empowered by a special diploma of the Pharmaceutical Society to give advice and prescribe for minor ailments, and thus raising their status to that of "medical" chemists, following the lead of many opticians who now add the word "ophthalmic" to their title?—I am, etc.,

London, W., Feb. 7th. Percy Dunn.

[1] British Medical Journal, p. 209.

SHIP SURGEONS.

SIR,—As one of the originators of the scheme for the amelioration of the lot of ship surgeons, I cannot allow Dr. Hadfield's letter published in the JOURNAL of January 7th to pass unchallenged. In his very able and concise summary of the conditions of surgeons in the mercantile marine published some time last July, he fully admitted the need for reform, but concluded by belittling the efforts of those attempting to bring this about. From his closing paragraph it must have been quite evident to any reader of both communications that Dr. Hadfield had entirely failed to grasp the import of what he termed "the manifesto" of "a warlike committee." His attention was drawn to this fact publicly in the JOURNAL by Dr. J. F. Elliott, acting as honorary secretary to the provisional scheme, and also by myself in a personal communication.

Dr. Hadfield's recent communication further emphasizes his original misconception, as I fail to see any clause relative to the "coercing of shipowners" in the proposed improvements made public last July.

It remains to be seen whether the new scheme initiated by the Orient Line will stand the test of time and competition. More especially when the competing company—P. and O.—refused to fall into line with it. Experience in the past has never shown shipowners to be philanthropists in regard to their medical employees any more than any other commercial firm, and there is no reason why this should be expected of them. They are engaged in business and conduct their steamers on business principles which are largely governed by the effect of competition. The new system of payment of fees for services rendered by the surgeons penalizes the Orient Company's ships in so far as P. and O. ships are concerned where services are rendered gratuitously—at any rate in the eyes of the managers.

Either there is room for improvement or there is not. The recent correspondence seems to point to the former, and the sooner this is obtained by universal combination throughout the profession, the better will it be for all concerned, including also the shipowner and travelling public. Attempts on the part of surgeons in individual companies are more or less bound to be abortive. Past experience has already demonstrated this, and shown it to be another example of the need of combined union for the common good.—I am, etc.,

Khartoum, Jan. 28th. A. VAVASOUR ELDER.

LEAVING THE COFFIN IN THE PORCH.

SIR,—Will you allow me to suggest an important addition to "Funeral Reform," which would be invariably, under all circumstances, to leave the coffin in the porch under the care of the undertaker, and never to take the coffin *inside* the church, whether the deceased died of some infectious illness or not? In summer time it is positively most dangerous to delicate and sensitive people who have to attend the funeral, and would be particularly liable to typhoid symptoms, if decomposition has in the slightest degree commenced. The coffin should be in the care of the undertaker in the porch until the mourners come out of church after the first part of the funeral service. By that means neither the mourners nor the minister could be injured. Whatever be the origin of the custom, it is most unwise from a sanitary point of view under any circumstances or at any time of the year.—I am, etc.,

February 6th. ESCULAPIUS.

WE have received the two portions of the section-catalogue of E. Leitz (9, Oxford Street, London, W.), which deal with projection apparatus and photomicrographic outfits. The first affords a good example of the finesse with which optical projection is carried out in these days, and the "universal" outfits and massive epidiascopes which are listed must make the modern lecturer, we imagine, feel it something of a strain to live up to them. The photomicrographic section is illustrated by some elaborate apparatus for coaxing a trypanosome into vision, and a feature of one outfit is a camera having the extraordinary extension of 40 inches. A number of specimen photomicrographs are appended, some of them representing magnifications of more than a thousand diameters. The special requirements of medical and analytical work are not forgotten.

Medical News.

DR. FLETCHER BEACH, of Coulsdon, has been elected a corresponding member of the Société de Psychiatrie of Paris.

A CLINICAL meeting of the Hunterian Society will be held in the library of St. Bartholomew's Hospital on Wednesday next at 4 p.m.

AT a meeting of the Royal Society on Thursday next Miss M. Robertson will read a paper on the transmission of flagellates living in the blood of certain freshwater fishes.

THE *Saxonia*, of the Cunard Line, started for a short cruise in the Mediterranean and Adriatic last week. The *Carpathia* will leave Liverpool for a similar cruise on March 2nd.

THE executive council of the National League for Physical Education and Improvement has passed a resolution in favour of the compulsory notification of measles.

THE Invalid Children's Aid Association will hold a conference on March 15th, with the object of promoting closer co-operation between the hospitals and nursing homes, having regard in particular to the continued treatment of cases of diseases of the hip and spine.

THE London County Council has decided to extend the period of compulsory notification of cerebro-spinal meningitis for a further period of twelve months from March 13th, 1911. The first notification order came into force on March 12th, 1907.

PROFESSOR ARTHUR KEITH, conservator of the museum of the Royal College of Surgeons of England, will commence a course of six Hunterian lectures on the fossil remains of man, and their bearing on the origin of modern British types, next week. The lectures will be given at the college on the Mondays, Wednesdays, and Fridays in the weeks beginning February 20th and February 27th, at 5 p.m. on each day.

THE Milroy lectures before the Royal College of Physicians of London will be delivered by Dr. A. E. Boycott on March 2nd, 7th, and 9th, the subject selected being ankylostoma infection. Dr. A. F. Hertz, who will give the Goulstonian lectures on March 14th, 16th, and 21st, will deal with the sensibility of the alimentary canal in health and disease. Dr. J. Mitchell Bruce has selected a clinical study of cardio-vascular degeneration for the Lumleian lectures which he will deliver on March 23rd, 28th, and 30th. The Oliver-Sharpey lectures, to be delivered on April 4th and 6th by Dr. J. Mackenzie, will deal with heart failure. The hour of the lectures, which will all be delivered at the college, is 5 p.m.

THE next quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland will take place, on the invitation of Dr. Edwin Goodall and the Committee of Visitors, at the Cardiff City Mental Hospital on Thursday next at 2.30 p.m. Papers will be read on the Wasserman reaction in mental disorders by Dr. H. A. Schölberg and Dr. Edwin Goodall, on the production of indigo in the human organism by Dr. R. V. Stanford, on gynaecological conditions coincident with mental disturbances by Mr. E. Tenison Collins, and on metabolism in the insane by Mr. R. E. Mackenzie-Wallis. Members will have the opportunity of inspecting the mental hospital in the morning, and will be entertained at luncheon by the Lord Mayor of Cardiff at 1.15 p.m.

As long ago as 1895 the local authority of Surbiton undertook, on the advice of the Medical Officer of Health, Dr. Owen Coleman, to make special arrangements for the supply of diphtheria antitoxin. In consequence of the circular recently issued by the Local Government Board (BRITISH MEDICAL JOURNAL, 1910, vol. ii, p. 485), the authority has now issued to all medical practitioners in the locality a letter stating that the district council has made further arrangements for the convenient supply of antitoxin, and inviting medical men to resort to the use of this remedy on the first suspicion of diphtheria, and to use it also for persons who have been exposed to the infection owing to close and intimate contact with cases of diphtheria. Dr. Coleman states that hitherto antitoxin has been administered prior to the admission of the case to hospital only on rare occasions, and that this means not until the third or fourth day of the illness.

THE winter dinner of the West African Medical Staff took place on January 25th at the Gaiety Restaurant, under the presidency of Dr. Prout, C.M.G., formerly principal medical officer, now of the Liverpool School of Tropical Medicine. There was a very large attendance

of members, both senior and junior. Dr. Darker, in proposing "Prosperity to the West African Medical Staff," compared it to a column on the march along a narrow bush path. While each individual saw little of the others, they were mutually dependent on each other, and had a common objective—the success of the expedition. He foresaw the time when men who had been through the medical curriculum would be more and more in requisition, both at home and abroad, to fill important administrative posts. Medical men had to deal with human beings as they are, and only accept facts about them. He believed that medicine was slowly but certainly forging to the front in public opinion, and that its influence would largely increase, and in this way the prosperity of the West African Medical Staff was assured. Dr. Prout, in proposing "The Visitors," said he was glad to see present two members of the permanent staff of the Colonial Office, for it was of mutual benefit for them to meet under these social conditions, unfettered by the trammels of official papers. He was sure that the members of the staff would give them a hearty welcome if they could only be persuaded to visit the West Coast of Africa. He also coupled with the toast the names of Dr. Low, who had done brilliant work in connexion with tropical research, and Dr. Tulloch, a distinguished colleague from the West Indies. Mr. Strachey, a principal clerk in the Colonial Office, in an interesting speech, gave some examples of old prescriptions containing weird ingredients, and congratulated the staff on not having nowadays to collect the materials themselves. He thanked them for their welcome, and for giving him the opportunity of being present. Drs. Low and Tulloch also suitably replied.

Medico-Legal.

WORKMEN'S COMPENSATION.

Probable Difficulty in Getting Medical Aid.

In *Neilson* v. *R. W. Jones and Co.* (*Western Mail*, January 6th), it appeared that applicant had one of his legs broken at sea, and when the case was first heard there was a conflict of medical testimony as to whether he was permanently injured from following his occupation as a sailor, as, in his case, there was a scar over the fractured ends, which, if again injured and there was not medical aid immediately available, would be a serious matter. Besides that, there was a slight shortening of the limb. His Honour sent the case to the medical referee, whose report was to the effect that the man was not able to resume his work as a sailor. His Honour thought it was fair to say that every person who went to sea was in some danger. It was contended that the injury did not make the applicant more liable to accident. All that it did, in the opinion of some of the doctors, was to render him liable to serious consequences if he met with another accident and was hurt in the same place. His Honour adopted that view, and found for the respondents, but gave a declaration of liability to protect the applicant in case of further injury. Having regard to the respondents succeeding on the question of permanent incapacity, and to the fact that the applicant was entitled to a declaration, he ordered each side to pay its own costs.

Procedure before a Medical Referee.

An entirely novel point, which cannot fail to interest medical referees, was raised in a case heard at Bolton County Court on December 14th, 1910. His Honour having sent a case to a medical referee, the employers claimed the right to take witnesses (including medical witnesses), together with counsel and solicitor, before the referee, and conduct a species of trial before him. This contention was based upon one of the compensation rules, which provides that the referee shall "consider any statements that may be made or submitted by either party." Judge Bradbury, however, refused the application, saying that the rule meant that the parties themselves might attend before the referee in person and make statements to him, whether verbal or written, but not that they might call persons to give viva-voce evidence on their behalf. His construction of the rules and his opinion of the desirable practice was that witnesses should not give evidence before the referee. He expressed a wish, however, that the matter might be considered by a higher tribunal and gave leave to appeal.

Accident or Disease of the Lung.

In a case at Salford (December 19th, 1910) a widow asked for an award against the Ship Canal Company. It appears that her late husband was injured by falling from a plank. He was unable to work again until January, 1909, when he was given a lighter job, which he kept until October. He was then taken ill again, and died at the infirmary. A medical witness said death was due to malignant growth brought on by a laceration of the left lung in the accident, but Dr. Hay, who made the *post-mortem* examination, said the growth was brought on by natural causes. A third doctor who attended Harrison at the time of the accident said there were no symptoms which led him to believe the lungs were injured. The judge said there was a good deal of obscurity about the origin of this kind of growth, but in this case he was satisfied that there was no connexion between the accident and death. His decision, therefore, was in favour of respondents. The Ship Canal Company did not ask for costs.

Necessity for Accuracy in Hospital Memoranda.

Doctors who are consulted in relation to accidents must needs take particular care in relation to the entries which they make concerning them. In a case at Nottingham (December 14th, 1910) it appeared that on December 10th, 1909, a man twisted the muscles of his back when lifting a case of yarn weighing 3 cwt. He alleged that he could do no work since the accident. Since March 2nd, 1910, the pain in his back had frequently compelled him to stay in bed all day. He was seen by a doctor at the Nottingham General Hospital, who (when giving evidence) admitted having made the following entry in the hospital book: "Sciatica through injury." Cross-examined, this witness said that the only record of his diagnosis—the hospital book—had been lost. He doubted that the entry was "Sciatica through injury," but said that he might have written, "Sciatica. Query injury," which was a very common thing. Harry Foster, whom applicant assisted in the packing room at Messrs. Wilson's works, said that five or six months before the alleged accident the applicant complained to him of pains in his back. On behalf of the employers it was submitted that the applicant had suffered from sciatica for a considerable time, and he disputed that an accident had taken place. Buckley having been examined by Dr. Anderson (who sat with the judge as medical assessor), the judge said he was advised by the medical assessor that the man had suffered from the effects of an accident, but was now able to do light work. He, therefore, made an order for payment of 15s. a week from March 5th, 1910, to date, and 7s. 6d. a week subsequently on the understanding that the defendants found him some light piecework to do.

Strangulated Hernia.

In Roxburghshire Sheriff Court, Sheriff Baillie has issued an interlocutor in an action brought under the Workmen's Compensation Act by Helen Walker, housekeeper, against Thomas and William Murray, farmers, Mervinslaw, in which the claimant asked the court to award her compensation for the death of her father, James Walker, who was farm steward in the service of the respondents. In support of the claim it was stated that in April last deceased suffered from rupture while driving a sow from a neighbouring farm to Mervinslaw. The rupture became strangulated, an operation was performed, and Walker died six hours afterwards. He had been treated for rupture at home in December, 1908, and underwent an operation in Edinburgh Royal Infirmary in January, 1909; respondents submitted to the court that the rupture and strangulation in April were not the consequences of an accident, but were simply occurrences in the course of the disease which might take place at any time. Sheriff Baillie found it not proved that Walker met with an accident on his way home with the sow, and that the claimant was not entitled to compensation.

The Attendance of Doctors at County Courts.

When taking his seat at Durham, at 11.30 a.m. on December 15th, 1910, Judge O'Connor asked if there were any medical gentlemen present, and, receiving an answer in the affirmative, said, "I think it is a great pity that medical gentlemen should be brought to this court at 10 o'clock. It is perfectly certain that they cannot be called upon for some time, and a doctor might be seeing his patients for an hour or an hour and a half. It will be better to let doctors know that they need not attend much before 12 o'clock, at any rate on the Monday." As a matter of fact, there is hardly a county court in England or Wales where a similar rule might not be made. It nearly always happens that the first two hours of the day are taken up with judgement summonses or other business, which postpones the hearing of contested cases.

Alleged Malingering.

In a Stockton case (Newcastle, December 20th) it appeared the applicant was a rivet heater. While at his work in November, 1909, he was injured, and in consequence of his injuries he suffered pains in the back and stomach. He received compensation until February, 1910, when it was stopped. He now applied for a renewal of compensation on the ground that he could not go back to work. Two doctors (Dr. Hughes and Dr. Cameron) said they had examined the applicant, who was well nourished and in excellent health. In their view there was nothing the matter with him. When he went to Dr. Hughes's surgery he commenced to howl before either of them touched him, and he walked along the floor very slowly, and with apparent difficulty, as if in the greatest agony. He stated that he could not raise his arms higher than his chest, but when he was pulling on his shirt after his examination he forgot himself for the moment, and shot his right arm straight up over his head. Then later, when he was leaving the surgery, he almost crawled to the door, but when he got into the street they watched him, and saw him walk away with quite a drum and fife swing. Witnesses were both certain that the applicant was malingering. The application was refused.

Fracture of Cervical Vertebrae.

The Recorder of Dublin delivered judgement recently in a case which he said he was informed was one of the most remarkable that had ever come under the experience of hospital authorities, because the plaintiff had a lesion similar to what one would find in a man who had been hanged. The plaintiff, while moving sacks of grain on March 30th last, got his foot caught by the door of a lift, and was thrown violently to the ground. The medical evidence had been contradictory, the doctor for the plaintiff stating that in his opinion there must be a blood tumour between the muscles and the bones of the neck, while the doctor who examined the case on behalf of the defendants believed the patient to be quite well and fit for work. Under the circumstances a medical assessor was called in, and as a result of an *x*-ray examination it was proved that the plaintiff had sustained a fracture dislocation of the cervical vertebrae. The Recorder awarded the applicant half wages until further order, and referred to the case as a marked example of the great benefit both to employers and employed of the power given by the Act to have the opinion of an assessor in such cases.

TRANSFER OF LEASE.

K. R. writes that he has purchased a practice, and paid in full for the same. He wishes to know who should pay for the transfer of the lease of the house. A clause in the agreement of sale says the vendor "shall assign the lease or agreement under which he holds the house to him, the purchaser, and, if necessary, obtain the landlord's consent to such assignment."

*** In such cases it is usual for each party to be represented by his solicitor in settling this assignment. Certain legal expenses are therefore incurred on both sides, and vendor and purchaser each pays the charges of his own solicitor.

FEES OF MEDICAL WITNESS.

HOUSE-SURGEON does not send sufficient details to enable a definite reply to be given. For instance, he does not state whether the action was tried before the High Court or before a county court judge. Generally speaking, however, a witness can refuse to give evidence in a civil case until he has received compensation for his loss of time, the objection being taken before being sworn. County court judges have held, however, in some instances that where a witness has been subpoenaed and is in court he can be called upon by the judge to give evidence, and, should he refuse, be dealt with as committing contempt of court. This ruling does not appear to follow the procedure of the High Court. The solicitor in this case has apparently made himself responsible for the fees by "giving his assurance" to the court that they would be paid, but ample evidence of such guarantee would be required should action be raised to enforce payment.

Obituary.

FREDERICK MELLAND, M.R.C.S., L.S.A.

IT is given to few men to attain the age reached by Dr. Frederick Melland, who died at his home in Victoria Park, Manchester, on January 17th, at the age of 93 years. Dr. Melland was born at Alport, Derbyshire, on January 28th, 1818, and after education at local schools he was apprenticed to a surgeon at Sheffield. His medical studies were completed at Manchester, and he spent some time in study in Paris. He obtained the diploma of L.S.A. in 1840, and that of M.R.C.S. in 1841. In that year he settled in Manchester, and became Resident Surgeon at the Manchester Royal Infirmary. Soon afterwards he went to Rusholme, which was then almost a country village, and where for some years he was the only resident practitioner. As the district grew in popularity as a place of residence for the well-to-do people of Manchester, Dr. Melland became well known and obtained a considerable practice. He became Consulting Surgeon to the Chorlton-on-Medlock Dispensary, and when the Volunteer movement was started he joined as a surgeon to one of the Manchester corps in 1859.

Dr. Melland was twice married, his first wife being Miss Kelsall, of Rochdale, a relative of Sir George Kemp's family, and the second Miss Middleton, of Darlington. As issue of these marriages he had five sons and three daughters. In the year 1877 his eldest daughter, Helen, was married to the present Prime Minister, Mr. Asquith, the ceremony being performed in the Rusholme Congregational Church by the late Rev. T. Campbell Finlayson. Mrs. H. Asquith died in the year 1901, leaving five children, and a few months ago, in spite of his great age, Dr. Melland was able to go to London to attend the wedding of his grandson, Mr. Herbert Asquith, the second son of the Prime Minister. Dr. Melland was always an ardent politician, and took great interest in the early struggles for Free Trade and in the movement for the repeal of the Corn Laws. It is only natural that he should have followed with fatherly pride the career of his son-in-law, the Prime Minister, and it was a source of satisfaction to him that though he was only just recovering from an accident in which he broke his leg, he was able to go to the poll at the election last December and vote for Mr. H. Nuttall, the Liberal candidate for the Stretford Division.

Of Dr. Melland's sons, two are in the medical profession, Dr. Brian Melland, who is in practice at Bowdon, and Dr. C. H. Melland, who is a physician in Manchester and Honorary Physician to Ancoats Hospital and the Northern Hospital for Children, while Mr. Norman Melland is in business in Manchester, and Mr. Godfrey Melland is on the teaching staff of the Technical School at Woolwich.

Dr. Melland found his chief relaxation in travelling and reading, and he took special interest in church architecture, often going to distant places to see any specimens of early architecture. Ten years ago he retired from the active practice of his profession, but continued to take a keen interest in medical matters, especially the welfare of the Ancoats Hospital and the Royal Infirmary. He was present at the opening of the Royal Infirmary by King Edward, where from the numerous medical men present he had quite a reception as the oldest and one of the most honoured practitioners of the district. On January 21st the South Manchester Board of Guardians passed a resolution of condolence with the relatives, and the chairman said that Dr. Melland was appointed District Medical Officer under the Chorlton Board in 1850, soon after the first beginning of the union. He retired in 1896, being then practically the oldest official connected with the union. The last obsequies were performed on January 21st at the Manchester Crematorium, and were attended by the Prime Minister.

WILLIAM PATRICK, M.D.,

CERTIFYING FACTORY SURGEON, SOUTH-EASTERN DISTRICT OF GLASGOW.

DR. WILLIAM PATRICK died at his residence, Bridgeton, Glasgow, on February 2nd, in his 75th year. Dr. Patrick was in practice in the east end of Glasgow for forty-nine years. He became a Licentiate of the Faculty of Physicians and Surgeons of Glasgow in 1861, and M.D. of Glasgow University in 1870. He was therefore a student in the Glasgow Royal Infirmary in the days when Lister was carrying on his world-famous experiments, and was present at the birth of antiseptic surgery. He was a pupil also of Sir W. T. Gairdner and Sir G. H. B. Macleod, and amongst his fellow-students were Dr. J. B. Russell and Dr. James Finlayson, all of whom were personal friends in the later years of practice. He became early immersed in the busy life of a general practitioner in the chief working-class district of Glasgow. About twenty-five years ago he was appointed Certifying Surgeon for the South-Eastern District of Glasgow. This appointment he valued highly as it brought him into close contact with the employers in the district, many of whom were his personal friends, besides giving him many opportunities of watching over the health and welfare of the young workers. He continued visits to factories in his area down to within six days of his death; and even during his last hours of delirium he was busy "doing his factories," giving the young people sound moral advice, and urging upon them, as he always did whenever opportunities presented, habits of order, and obedience, and cleanliness.

Dr. Patrick was a keen member and office-bearer of the United Free Church of Scotland. For forty-one years he was Session Clerk in Bridgeton United Free Church. He was a Liberal in politics and frequently took part in political meetings in the Bridgeton district, while he held office in the local Liberal Association. He was active also in medical societies, and was an original member and past-President of the Glasgow Eastern Medical Society.

His last public appearance was at the dinner to his much valued friend and medical adviser, Sir David McVail, on January 20th. On that evening he had felt extremely well, but two days afterwards he had anginous attacks; these became more frequent and severe till the fatal termination. The funeral services at Bridgeton United Free Church and at the Crematorium Chapel in the

Western Necropolis of Glasgow were attended by large congregations. His death removes from the east end of Glasgow perhaps its best known personality. He was much loved for his simplicity of character, for his strict adherence to principle, for his devotion to his church, as well as for his innumerable acts of kindness and generosity which his large practice constantly called from him.

He is survived by his wife, five daughters, and two sons, who are both members of the medical profession.

ALFRED WILLIAM FREDERICK STREET, D.S.O.,

LIEUTENANT-COLONEL, I.M.S. (RETIRED).

To the many friends of the late Lieutenant-Colonel A. W. F. Street, D.S.O., the news of his sudden death at his residence, Norsey Manor, Billericay, at the comparatively early age of 58, will have come as a shock and caused deep regret that a life of such activity and usefulness should, seemingly prematurely, have closed.

The eldest son of the late Rev. B. Street, vicar of Barnetby-le-Wold, Lincolnshire, Lieutenant-Colonel Street entered as a student at St. George's Hospital, where he subsequently gained the Brackenbury Prize in 1872. Qualifying in 1876, he for some time held an appointment at the Royal Free Hospital, Gray's Inn Road, entering the Indian Medical Service in October, 1877. After going through the usual course at the Royal Victoria Hospital, Netley, he proceeded to India, where he saw much active service. Early in his career he took part in the Afghan war of 1878-80, being present at the action of the Helmund, July 14th, 1880, battle of Maiwand, defence of Kandahar, and the battle of September 1st. For this he was mentioned in dispatches and received the medal and clasp. At a later period he was actively engaged in the Burmese Expedition of 1886-7, for which he was again mentioned in dispatches, received the medal and clasp, and was gazetted D.S.O. The greater portion of his service was, however, spent in civil employ, and in this he displayed the same zeal and self-abnegation which was characteristic of him in his military work. From 1887 until his retirement he acted as a Deputy Sanitary Commissioner under the Government of Bombay; he saw a great deal of famine duty, and was in sanitary charge of a very large tract of country. In 1898 he took a very active part in the suppression of plague in Bombay itself.

Of strong physique and very active habits, which enabled him to take a prominent part, during such periods of relaxation as he permitted himself, in field sports, Lieutenant-Colonel Street maintained the best traditions of the Indian Medical Service. When he retired in 1902 it was not to leave off work, but to participate in the strenuous business of a city firm. Whether there or in his country home in Essex, he showed the same dislike to being idle which had characterized him throughout. His death came with startling suddenness. After a very busy week in London he spent the morning of January 28th in the hunting field, from which he returned more than usually tired. The following day, Sunday, he did not feel well enough to get up, but there was nothing apparently in his condition to cause any particular anxiety. On attempting to rise in the evening he collapsed, coma supervened, and at 8 o'clock the following morning he passed away, death being due to cerebral haemorrhage.

Such are the main features of his career, but to his friends some further tribute to his character seems essential. Perhaps its chief characteristic was thoroughness and devotion to duty. He had a high ideal of duty, both in public and private life, and pursued it unwaveringly. Of a reserved nature, hating display, and modest about himself, anything which savoured of self-seeking was abhorrent to him. To those who knew him intimately the sense of personal loss is great, for they felt the warmth of his friendship and appreciated it highly.

Lieutenant-Colonel Street married, in 1884, Helen, only daughter of the late Rev. E. M. Weigall, vicar of Frodingham, Lincolnshire, by whom he had one son and three daughters, for whom, as for his widow, great sympathy will be felt in their sudden bereavement.

The funeral took place at Barnetby, Lincolnshire, on February 2nd, a memorial service being held at the same time in the parish church at Billericay, Essex, where he had lived, which testified to the great respect and affection with which he was regarded in the neighbourhood.

After a long illness, Dr. T. J. Fordyce Messer, of Helensburgh, died on January 28th, at the age of nearly 70 years. He was born in Edinburgh and graduated there, afterwards practising in Penicuik, before settling in Helensburgh, where he succeeded Dr. Skene over forty years ago. For a quarter of a century he was medical officer for the burgh, but retired from active work eight years ago. He was deeply interested in the Volunteer movement and was a member of the Midlothian Yeomanry while in Penicuik, becoming Company Sergeant-Major. He took a commission in the combatant ranks of the local artillery volunteers in Helensburgh, and became Major in the Renfrew and Dumbarton Artillery. He was also for many years a member of the local school board. He leaves a widow and grown-up family.

Another very promising member of the profession has met his death abroad while doing his duty. Arthur Frame Jackson died of cholera at Moukden, where he was attached to the Mission Hospital. Dr. Jackson, who was only 26 years of age, was a Cambridge graduate who had done a large part of his clinical work at the Liverpool Royal Infirmary, where his sterling qualities and genial disposition had made him very popular with all who came in contact with him. As a boy he was educated at the Merchant Taylors' School, Crosby. It was only in last September that he sailed for China, taking up his duties in November. There seemed then every prospect of a successful career, as he was just the man for the post; physically above the average, his mental attainments, and, above all, his earnestness, specially fitted him for his calling.

We regret to have to record the death of Dr. J. E. Morris of Bishop's Stortford, at the age of 65. He was the son of Mr. Henry Morris, surgeon, of Gosberton, Lincs., was educated at Epsom College, and studied medicine at St. Thomas's Hospital. He took the diplomas of M.R.C.S. Eng. and L.S.A. in 1870, in which year he went to Bishop's Stortford as assistant to the late Mr. Scarr, and on his death succeeded him in practice. In 1885 he took the degree of M.D.Durh. In July last he resigned the post of Medical Officer of the Bishop's Stortford Union, which he had held for thirty-nine years, and on his retirement the guardians expressed their regret on his having to give up a post he had so long held, and expressed the hope that he would long be spared to live in the district. Dr. Morris was some years ago a member of the old Light Horse, was an expert horseman and an enthusiastic huntsman, being a conspicuous figure at the meets of the Puckeridge hounds. Dr. Morris was President of the Cambridge and Huntingdon Branch of the British Medical Association in 1895 and delivered the presidential address before the Branch at its meeting that year at Bishop's Stortford. Dr. Morris leaves two sons and one daughter, the latter and also the eldest son being members of the medical profession, while the younger son holds the diploma of L.D.S.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Professor Nagel, Director of the Physiological Institute in the University of Rostock, aged 40; Dr. Eustache, sometime Professor of Obstetrics at Lille; Dr. Lustgarten, a well-known dermatologist of New York, formerly assistant to Professor Kaposi at Vienna, aged 51; Dr. M. Cienfuegos, Professor of Ophthalmology in the Medical Faculty of Santiago, Chile; and Dr. Giuseppe Albini, for many years Professor of Physiology at Naples, in his 84th year.

A Belgian Society of Physiotherapy was formally constituted at a meeting held at Brussels on January 29th. Dr. R. Verhoogen, Professor of Internal Pathology in the University of Brussels, has been elected the first President.

Dr. E. McConnell has been appointed subconvener of the Health Committee of Glasgow Town Council in room of Mr. W. F. Anderson; and the Medical Officer of Health and Chief Sanitary Inspector have been appointed the officers of the local authority for the regulations made by the Local Government Board under the Housing and Town Planning Act, 1909.

The Services.

REPORT ON THE HEALTH OF THE ARMY FOR THE YEAR 1909.

THE present volume—the fifty-first—will recall to old medical officers the first annual report, that for 1859, issued in Blue Book form exactly fifty years ago. It was an outcome of the historic Herbert Commission on the medical service, called into being through the dire experiences of the Crimea and Mutiny; among its many recommendations (finally embodied in the Royal Warrant of 1858) was the publication annually of army medical statistics in a comprehensive form.

Many army vital statistics had, of course, been published in a fragmentary way before that time, and one, which sticks in memory, showed that in the first half of the nineteenth century the deaths of European soldiers in India reached the terrible proportion of 69 per 1,000 of strength per annum, which may fitly be contrasted with 6.37 for 1909, the year under review.

For years after the Mutiny the Blue Books showed that the mortality continued many times what it is now, and the records of sickness and suffering corresponded. What has brought about such marvellous changes for the better during the past half century?

In an admirable introductory letter the Director-General, A.M.S., enumerates among the chief causes of improvement in the health of the army, "the continued education of the soldier in matters of personal hygiene," the "further improvement in the sanitary condition of barracks and camps," and "the advance of science in the direction of disease prevention;" but he refrains, with official reticence, from indicating that the soldier is indebted for that beneficent application of these measures to a rationally organized, highly trained, and reasonably trusted Royal Army Medical Corps. Such important service should not and cannot be overlooked, for a mere glance at recent statistical tables at once suggests that the remarkable decline in sickness, invaliding, and mortality, closely coincides with the medical service attaining an increased and proper army status, a reform so long fought for. It is now repaying the State a hundredfold in increased army health and efficiency.

The Director-General also points out that the steady betterment of recent years cannot go on indefinitely, for a point of "finality must be reached" some day; but, it is hoped, not for some time yet.

GENERAL VITAL STATISTICS.

The following condensed tables show the decreases under various heads during the past decade.

Troops at Home and Abroad: Ratios per 1,000 of Strength.

Years.	Admissions.	Deaths.	Invalids Sent Home.	Invalids Finally Discharged.	Constantly Sick.
1889–1898	997.3	9.03	26.56	15.36	59.85
1908	573.1	4.78	15.91	10.32	32.28
1909	504.8	4.10	10.34	8.65	28.86

This shows a practical halving under each head; the "constantly sick" figures mean a yearly addition of effective soldiers amounting in the entire army to several battalions, while it has permitted the closing down of over 3,000 hospital beds at home and in the colonies. The figures for India by itself are, in proportion, equally satisfactory:

Troops in India: Ratios per 1,000 of Strength.

Years.	Admissions.	Deaths.	Invalids Sent Home.	Invalids Finally Discharged.	Constantly Sick.
1889–1898	1,464.7	16.43	27.95	14.78	89.61
1908	836.2	9.27	15 67	8.36	45.81
1909	716.9	6.37	9.06	6.05	40.26

The marked decrease of invaliding is said to result from the policy of sending convalescents to "hill stations," thereby lessening by two-thirds a hitherto great drain on the garrisons and finances of India.

Recruiting.

This is appropriately the first detailed section of the report; for it is evident the wellbeing of the army largely depends on the skilful guarding of its portals.

In former easy-going days it seemed that any superannuated military, medical, or non-commissioned officer was considered good enough to conduct recruiting duties. That is no longer the case; officers and men are carefully selected for personal fitness, while junior medical officers are instructed in the technical and exacting work of examination.

The medical rejections remain remarkably even at between 30 and 34 per cent. of the recruits examined; fewer recruits were brought forward, and rejections were fractionally higher in 1909, owing no doubt to the fact that the standards of height and chest measurement were raised for certain branches during the year. Fluctuations in the ratio of rejections do not necessarily mean a lower quality in the recruits presenting; for the rejections may be high or low, according as the recruiters, or "bringers," do the duty of primary selection carefully or slackly. A good deal also depends on the nerve and discretion of the examining medical officer, some examiners showing habitually a higher ratio of rejections than others.

Since the Boer war it is well known that the recruiting authorities have been much exercised by the formidable rejections for loss and decay of many teeth, which, as a disability, ranks only second to defective chest measurement. This newly awakened interest in the teeth arose from a military outcry that in the war the men could not eat the terribly hard biscuits issued to them in the field, a complaint which, from what we can learn, has been carried too far, and in late years has caused the rejection of many otherwise eligible recruits; the army, it is urged, can hardly expect to maintain a much higher standard for teeth than obtains in the class in civil life from which it is drawn. It is difficult to formulate any elastic rule, and impossible to lay down a hard and fast one, as to what should constitute a dental disability, and it is suggested that it would probably be safest to follow the old rule that several "opposing molars" be considered sufficient, provided the recruit is otherwise well developed and nourished.

The anthropometric tables given in connexion with recruiting will be found of scientific value.

Physical Training.

The present system of physical training for recruits is an undoubted improvement on the old, which aimed at the development of mere muscle, and not of the body generally; the old system was blamed for much of the invaliding for cardiac disorders of recruits under three months' service; now, these disorders are referred to the excessive smoking of cheap and injurious cigarettes.

Enteric Fever.

In discussing the spread of this disease, more and more stress is laid on human "carriers"; this aspect of the subject is illustrated by an outbreak at Kilworth Camp, which was traced on circumstantial evidence to a girl employed on a farm from which milk used by the troops was obtained; she had suffered from enteric in 1903, and her subsequent movements were followed by febrile attacks among those she came in contact with, or handled milk for, while the *B. typhosus* was abundantly found in her blood and urine.

The general question of soldier "carriers" is being investigated.

Malta Fever.

This intractable fever seems to have been suppressed in Malta itself, since tinned milk only has been used in barracks and hospitals. But it still occurs in Gibraltar, where, owing to proximity to Spain, it was difficult to control the milk supply.

Insect Carriers of Disease.

A determined war against flies and mosquitos is being carried out at all our foreign stations, as in the following stations; at Pretoria, Transvaal, the Mosquito Brigade has drained pools, when this was possible, and in all instances treated stagnant water with paraffin, with the result that malarial fevers almost immediately ceased; at Bermuda, where fresh water is only obtained by rain catches, the cemented water tanks have all been made mosquito proof. In South China and Mauritius, "the utmost satisfaction is derived from the result of a determined attack on the malarial mosquito." In India progress of the warfare is largely a matter of sufficient funds. Everwhere disinfectants obnoxious to flies are used in latrines and cesspits; and, where practicable, all rubbish is destroyed by fire.

India, 1909.

The progressive improvement in health under all heads culminated in the returns for 1909. They were the lowest recorded, a result ascribed to great advances in the knowledge and application of sanitary measures in cantonments, clothing, and food; in the soldiers' growing appreciation of a rational mode of life; and in the benefits accruing from antienteric inoculation. In India not only male but female carriers of enteric fever must be recognized, for in many bazaars there has become located a definite European female element, drawn from countries where enteric is common. This seems to be a new point. Cholera has been largely eliminated from Indian statistics in recent years, owing probably to recognition of the fact that it is mainly a waterborne disease. In 1909 there were 12 cases and 7 deaths; 5 of these cases and 3 of the deaths occurred at Secunderabad in November in the 13th Hussars. The men were out on a field day thirty-six hours before they were attacked with all the symptoms of cholera. The water supply taken from the barracks having been lost, they had drank from a village well, and the native *mistri* who drew the water for them also died with many symptoms of cholera. It had been suggested that these cases were ptomaine poisoning, but although there was no bacteriological proof, the clinical evidence was complete that they were genuine cholera. A few years ago venereal diseases were the cause of great loss in India. Although they still account for 9 per cent. of the total admissions, they show on the whole a gradual decrease. Invalidity for secondary affections also shows diminution, which may partly be accounted for by the more thorough and continuous treatment now carried out. In the Rawal Pindi (2nd) Division a camp hospital, formed at Barian, in the Muree Hills, for the special treatment of venereal cases during the hot weather, has proved very successful.

ROYAL ARMY MEDICAL CORPS (SPECIAL RESERVE AND TERRITORIALS).

EXAMINATION FOR PROMOTION.

THE undermentioned officers have passed as specified in the examination for promotion held in December last:

Fully Qualified in B and in Military Law, in Organization, Administration, and Equipment, and in Sanitation (for promotion to the rank of Captain).—Lieut. A. L. S. TUKE, M.B., attached to Fife and Forfar Yeomanry; Lieut. F. J. GREEN, M.D., attached to the Duke of Lancaster's Own Yeomanry; Lieut. A. A. GUNN, M.B., attached to the 1st East Lancashire Brigade, Royal Field Artillery; Lieut. D. S. SUTHERLAND, M.D., attached to the 3rd London Brigade, Royal Field Artillery; Lieut. W. T. HARKNESS, attached to the Northumbrian Divisional Engineers; Lieut. J. A. NIXON, attached to the 4th Battalion Gloucestershire Regiment; Lieut. C. I. ELLIS, M.D., attached to the Wessex Column, Army Service Corps.

Mounted Brigade Field Ambulances.—Lieut. M. S. DOUBBLE, Eastern, (*a*), B 2, 3, and 15; Major W. H. STEPHEN, M.B., 1st South Midland, (*c*), D 1, 2, and 3; Lieut. D. BUCHANAN, 1st South Midland, (*a*), B 2, 3, and 15; Major J. R. I. RAYWOOD, South Wales, (*c*), D 1, 2, and 3, (.8 in D 1).

Field Ambulances.—Major F. A. BROOKS, 1st East Anglian, (*c*), D 1, 2, and 3 (.8 in D 1, 2, and 3); Lieut. R. PHILLIPS, M.B., 2nd East Anglian, (*a*), B 2, 3, and 15; Lieut.-Col. F. KELLY, M.D., 1st Highland, (*c*), D 1, 2, and 3 (.8 in D 1 and 3); Lieuts. S. A. COAD and H. G. G. MACKENZIE, M.B., 3rd Home Counties, (*a*), B 2, 3, and 15; Major F. D. WOOLLEY, 2nd East Lancashire, (*c*), D 1, 2, and 3; Lieut. C. H. S. REDMOND, 2nd East Lancashire, (*a*), B 2, 3, and 15; Lieut. E. H. COX, M.B., 3rd East Lancashire, (*a*), B 2, 3, and 15; Major A. G. GULLAN, M.D. F.R.C.S., 1st West Lancashire, (*c*), D 2 (.9); Lieut. G. C. E. SIMPSON, 2nd West Lancashire, (*a*), B 2, 3, and 15; Lieuts. P. C. P. INGRAM, M.B., and H. D. DAVIS, 2nd London (City of London), (*a*), B 2, 3, and 15; Lieut.-Col. W. F. SOMERVILLE, M.D., 1st Lowland, (*c*), D 1, 2, and 3; Major G. H. EDINGTON, M.B., 1st Lowland, (*c*), D. 2; Lieut.-Col. A. D. MOFFAT, 2nd Lowland, (*c*), D 1, 2, and 3 (.8 in D 3); Major P. F. SHAW, 2nd Lowland, (*c*), D 2; Lieut.-Col. A. A. ROSS, M.B., and Major A. M. MCINTOSH, M.B., 3rd Lowland, (*c*), D 1, 2, and 3: Lieut. H. G. W. DAWSON, M.B., 1st North Midland, (*a*), B 2, 3, and 15; Lieut. A. J. RIDDETT, 2nd North Midland, (*a*), B 2; Lieut. R M. WEST, M.D., 2nd North Midland, (*a*), B 2, 3, and 15; Lieut. H. F. W. BOEDDICKER, M.B., 1st South Midland. (*a*), B 2, 3, and 15; Lieut. J. W. HESLOP, 1st Northumbrian, (*a*), B 2, 3, and 15; Lieut. G. H. SPENCER, 1st Northumbrian, (*a*), B 15; Major J. R. KAYE, M.B., Sanitary Officer, West Riding Division, (*c*), D 1; Lieut. J. EWING, 1st West Riding, (*a*), B 15; Major W. MCG. YOUNG, M.D., 2nd West Riding, (*c*), D 1, 2, and 3 (.8 in D 3); Lieut. F. G. DOBSON, M.B., 2nd West Riding, (*a*), B 2, 3, and 15; Lieut. E. F. SKINNER, 3rd West Riding, (*a*), B 2, 3, and 15; Major G. A. STEPHENS, M.D., 3rd Welsh, (*c*), D 1, 2, and 3; Lieut. T. P. PUDDICOMBE, 2nd Wessex, (*a*), B 2, 3, and 15; Capt. A. MILNE-THOMSON, 3rd Wessex, (*a*), B 2.

General Hospitals.—Lieut.-Col. C. J. JACOMB-HOOD, 2nd Eastern, (*c*), D 1, 2, and 3; Major G. N. BIGGS, M.B., 4th London, (*c*), D 1, 2, and 3.

(*a*) Denotes fully qualified in B; (*c*), fully qualified in D; B 2, Military Law; B 3, Organization, Administration, and Equipment: B 15, Sanitation. For promotion to the rank of Lieut.-Colonel: D 1 denotes Medical Organization of the Territorial Force; D 2, Sanitation and Epidemiology: D3, Laws and Customs of War on Land.

INDIAN MEDICAL SERVICE.

STUDY LEAVE REGULATIONS.

FOLLOWING on the text of the regulations regarding a grant of study leave to officers of the Indian Medical Service, it is stated, says the Calcutta correspondent of the *Times of India*, that:

1. Extra furlough for the purpose of study may be granted to officers of the Indian Medical Service on the recommendation of the Director-General, Indian Medical Service.

2. The period of such study leave will be calculated, in the case of an officer under military leave rules, at the rate of one month for each year of pension service; and in the case of an officer under civil leave rules at the rate of one month for each year of active service as defined in the Civil Service Regulations; up to a total in either case of twelve months in all during an officer's service.

3. Study leave may be taken at any time, but will not be granted more than twice in the course of an officer's service. This restriction does not apply to an officer who has part of his furlough converted into study leave under Rule 8.

4. The minimum period of study which will render an officer eligible for study leave shall be two months.

5. The minimum period of leave granted solely as study leave shall be six months. The time spent on the journey to and from India by an officer whose study leave is not combined with any other kind of leave will reckon as study leave, but the allowance specified in Rule 50 will be granted during the period of study only. An officer whose study leave is combined with any other kind of leave will, however, be required to take his period of study leave at such a time as to return at its conclusion a balance of other previously sanctioned leave sufficient to cover his return journey to India. When an officer has been granted a definite period of study leave and finds, after arrival in England, that his course of study will fall short of the sanctioned period to any considerable extent, his absence from India will be reduced by the excess period of study leave unless he produces the assent of the authorities in India to his taking it as ordinary furlough.

6. Study leave can be combined with any other kind of leave provided the period occupied in study is not less than two months, and in the case of leave on medical certificate provided that the Medical Board at the India Office certifies that the officer is fit for study. In the case, however, of an officer in military employment, study leave cannot be taken in continuation of the combined privilege leave and furlough admissible under the terms of India Army Order No. 64 of 1904, if the total period would thereby exceed eight months; but study leave may be so taken, provided such leave is for not less than two months and the total period of combined privilege leave, furlough, and study leave does not exceed eight months. This limitation to eight months does not, however, apply in the case of study leave combined with privilege leave alone. The total period of absence from duty in India in the case of officers under the leave rules of 1886 for the Indian Army will be strictly limited to two years.

7. Except as provided in Rule 8, all applications for study leave shall be submitted, with the audit officer's certificate, to the Director-General, Indian Medical Service, through the prescribed channel, and the course of study contemplated and any examination the candidate proposes to undergo shall be clearly specified therein.

8. Officers on furlough who wish to have part of their furlough converted into study leave should address the Under Secretary of State in the India Office, and should furnish a statement showing how it is proposed to spend the study leave. Similarly, officers on furlough or other leave who desire to have it extended for purposes of study should address the Under Secretary of State; but, in addition to the statement of the proposed study, they must support their applications with documentary evidence of their having obtained the approval of the authorities concerned in India to their applying for an extension of leave.

9. An officer who is at home on combined leave may be permitted to commence a course of study before the end of his privilege leave and to count the period so spent as part of his study leave without forfeiting his privilege-leave allowances during such period.

10. For the course of study, lodging allowances at the rate of 8s. a day for a field officer, 6s. for a captain, and 4s. for a lieutenant will be granted on the production of the certificate required by Rule 12. It is to be understood that, in order to qualify for the grant of study leave or for the receipt of lodging allowance, a definite course of study at a recognized institution which will occupy the time of the officer for five or six days a week must be pursued. This allowance will not be permissible to an officer who retires from the service without returning to duty in India after a period of study leave. Lodging allowance will be admissible up to fourteen days for any period of vacation.

11. The rate of pay admissible during study leave to an officer under civil rule is determined as follows:

(*a*) If the rate of pay admissible during furlough earned by service under civil rules is higher in his case than that admissible during furlough earned by service under military rules, then (1) he draws pay at the former rate for such period of his study leave as has been earned by his service under civil rules; and (2) for the remainder, if any, he can elect either to draw pay at the rate admissible during furlough earned by service under military rules, or to draw it at the rate admissible during furlough earned by service under civil rules for a period not exceeding the amount of such furlough at his credit; in this case an equal period of the furlough at his credit earned by service under civil rules will be treated as if it had been earned by service under military rules.

(*b*) If the rate of pay admissible during furlough earned by service under military rules is higher in his case than that

admissible in respect of service under civil rules, then (1) he draws pay at the former rate for such portion of his study leave as has been earned by his service under military rules; and (2) for the remainder, if any, he can elect either to draw at the rate admissible during furlough earned by service under civil rules, or to draw it at the rate admissible during furlough earned by service under military rules for a period not exceeding the amount of such furlough at his credit. In this case an equivalent period of leave furlough at his credit earned by service under military rules will be treated as if it had been earned by service under civil rules.

12. On completion of a course of study a certificate on the proper form (which may be obtained from the India Office), together with certificates of special study, should be forwarded to the Under Secretary of State, India Office, who will arrange for the transmission of copies of the documents to the Director-General, Indian Medical Service. Officers may also be called upon to report themselves in person to the President of the Medical Board, India Office, on the conclusion of their course of study.

13. Study leave will count as service for promotion and pension, but, except so far as it may be taken during privilege leave (see Rule 9), it will not count for furlough or any other leave. It will not affect any leave which may already be due to an officer, and will not be taken into account in reckoning the aggregate amount of furlough taken by an officer towards the maximum period of six years admissible under Article 299 of the Civil Service Regulations.

ACCELERATED PROMOTION.

The *Pioneer* (Allahabad, India) says that a modification of the rules regulating accelerated promotion in the Indian Medical Service has been sanctioned by the Secretary of State for India. Hitherto an officer had to qualify for such promotion while in the rank of captain, but instances occurred in which, owing to the exigencies of the service, the necessary courses and examinations at home could not be attended within the prescribed limit of time. It has now been settled that in such cases a further period of four years will be allowed from the date on which an officer attains his majority, and that when he has duly qualified his six months' accelerated promotion will be antedated.

CONCENTRATION OF SCOTTISH TERRITORIALS.

A MOST interesting experiment will take place during the training season in Scotland this summer, when it is proposed to concentrate over 20,000 regulars and territorials in the county of Ayr. The concentration will take place in the month of July, and troops of all arms will be under canvas under General Sir Bruce Hamilton. Not only will the Lowland Division and Coast Defence units be assembled, but as many units from the Highland Division as can be brought to train at this period will be included. These will, it is expected, include the Highland Field Ambulances. There will be no great "manœuvres" so-called, but the county of Ayr will be under the Military Manœuvres Act, as was the case in Fifeshire last year. Particular attention will be paid to the elementary training of companies and brigades, and there will be some combined operations at the close of the training. The massing of troops will be a valuable element in the training, particularly to the medical department, whose responsibilities will be considerably increased during such a concentration. There should, however, be sufficient personnel and equipment in the field ambulances and the regimental medical service to cope with all contingencies, and the experience to be gained with such a large number of troops encamped should prove of great valve.

GLASGOW UNIVERSITY OFFICERS' TRAINING CORPS.

AT the meeting of the Glasgow University Court on February 9th, the Lord Provost, on behalf of the committee appointed to consider the provision of a site for a head quarters building for the Officers' Training Corps, reported that the best site was one in University Avenue, adjoining the University Gymnasium. Principal Sir Donald MacAlister expressed the opinion that the suggested site fulfilled all the requirements, and access to the main road would be a great convenience to the corps. The Lord Provost formally moved that the University Court grant the suggested site gratis, and this motion was approved.

SCOTTISH TERRITORIAL RED CROSS BRIGADE.

THE Red Cross movement is still making satisfactory progress. In Port Glasgow 86 ladies have been enrolled and a complete male detachment of 52 men has also been formed, the latter being all trained ambulance men from the shipyards. A branch of the Red Cross Society was formed last week at Kirkintilloch; and in Greenock, after an address by Miss Haldane, two large representative committees were formed to carry out the work of interesting the public in the aims of the brigade and to recruit detachments. In the county of Renfrew over 1,000 persons have already enrolled in the county branch of the Red Cross Society, and the county has been subdivided into districts, with prominent ladies as vice-presidents of each district, charged with the duty of thoroughly organizing the district. Dr. James D. Holmes has been appointed county director for Renfrewshire. At the request of members of the voluntary aid detachments a special brigade badge has been designed and has been approved by Her Grace the Duchess of Montrose as President of the Scottish Branch of the British Red Cross Society. This badge is only issued to registered members of detachments, and costs 1s. The wearing of the badge is optional.

GENERAL HOSPITALS.

COLONEL SIR GEORGE T. BEATSON, K.C.B., Administrative Medical Officer for the Lowland Division, has been negotiating with the Glasgow Parish Council regarding the provision of beds for the accommodation of sick and wounded in the event of invasion. As a result of the negotiations the Council has agreed that, in case of invasion, beds to the number of over 500 will be set apart in Stobhill Hospital for the use of sick and wounded soldiers. This matter of hospital accommodation is a most important one, and steps are being taken to have the whole arrangements for the Division thoroughly organized in preparation for any emergency.

GLASGOW R.A.M.C.(T.F.)

UNDER the auspices of the Lowland Mounted Brigade Field Ambulance, Major J. Silver, R.A.M.C., delivered a lecture in the Glasgow R.A.M.C. Head Quarters, for medical officers and N.C.Os., on the evening of February 7th. The subject was the "Adaptation of Transport for Medical Purposes," and Major Silver referred particularly to Territorial medical requirements in the event of operations in Scotland. After referring to the nature and percentage of casualties, he dealt with the class of vehicle to be obtained locally, and the methods of improvisation to convert these vehicles, hay carts and country carts, into suitable transport wagons for wounded. By means of diagrams he showed the most expeditious and satisfactory methods of preparing hay carts for stretcher cases. He also referred to the fitting up of railway wagons for the reception of cases, the best methods for accommodation stretchers, and the need for training in this important subject. Improvised stretchers were also dealt with, and several methods for field use, and use by cavalry, were demonstrated. Colonel Sir George T. Beatson, K.C.B., complimented Major Silver on the excellent material which he brought before the officers, and referred to the great importance of the subject both for medical officers and for those who undertook Red Cross work in voluntary aid detachments on the lines of communication. After several questions had been answered, Lieutenant-Colonel Halliday asked for a very hearty expression of thanks to Major Silver for his most interesting lecture and demonstration, which was cordially responded to.

Public Health AND POOR LAW MEDICAL SERVICES.

DEATHS DUE TO PREMATURE BIRTH.

J. F.—Reference to Table V of the Local Government Board, which medical officers of health are expected to include in their annual reports, will show that deaths recorded as due to premature birth must be taken into account in recording the infantile death-rate.

SPECIAL FEES FOR ILLNESS BEFORE AND AFTER CONFINEMENT.

S. F. W. writes: On November 15th, 1910, I received an order from the relieving officer to attend a married woman, whom I found suffering from bronchitis and sickness and expecting confinement in a month. I attended her till December 14th, and on December 15th, at 5 a.m., she was confined by a midwife, and I was not called up, but saw her five hours later. I continued in attendance for another three weeks, until the woman had recovered from her confinement and illness. The guardians refuse payment of midwifery fee, as I was not "actually in attendance" at the birth. The board has a method of requiring the usual order to be "sanctioned by the board" as a "midwifery" order to be effectual as a midwifery case. What can one do in such a case?

*** As our correspondent was in regular attendance on his patient for the month immediately preceding her confinement, as well as for a period of three weeks subsequently, he can justly claim the usual midwifery fee.

IN view of the great practical importance of the newer methods of investigating cardiac diseases, especially by the record of the electrical changes in the heart with the string galvanometer, the General Committee of University College Hospital has established a special cardiographic department, and has placed it in the charge of Dr. Thomas Lewis, whose work in this direction is so well known.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Proposed Laboratory for Experimental Psychology.

It is proposed to build a laboratory for experimental psychology on a site adjacent to the proposed new building for the department of physiology. Plans have been drawn up for a building which includes lecture room and class-rooms, etc., at a cost of £3,700. At the present time "about forty students use the dilapidated cottage which does duty as a laboratory, and there is every probability of a considerable increase in their number in the near future."

Conferment of Degrees.

The following degrees have been conferred:

M.D.—W. R. Higgins.
M B.—T. B. H. Blake, C. Lillingston, G. Walker.
B C.—T. R. H. Blake, J. P. H. Davies, R. H. P. Hick, H. B. Richmond, W. B. Wood.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on January 25th.

Recognition of Teacher.

Dr. A. F. Hertz was recognized as a teacher of neurology at Guy's Hospital Medical School.

Appointment of Representatives.

Dr. A. D. Waller, F R.S., was appointed representative of the university on the governing body of the Imperial College of Science and Technology, vice the Right Hon. Sir Henry Roscoe, F.R.S., resigned. Other appointments are: Dr. Frederick Taylor to represent the university on the General Medical Council; Dr. H. R. Kenwood to represent the university in respect of University College at the Congress of the Royal Sanitary Institute in Belfast in July, 1911.

Department of the Professor of Protozoology.

The Senate accorded its thanks to the authorities of the Lister Institute of Preventive Medicine for a contribution of £100 a year which they have made to the salary of the assistant to the professor of protozoology.

CONJOINT BOARD IN ENGLAND.

AT a meeting of the Comitia of the Royal College of Physicians of London on January 26th and of the Council of the Royal College of Surgeons of England on February 9th, diplomas of L R.C.P. and M.R.C.S. were conferred respectively on the following candidates (including one lady, Miss Pearl Jane Sproule, M.B., of Toronto University) who have passed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Examining Board in England and have conformed to the by-laws, namely:

J. Bamforth, A. M. Barlow, H. C. Bazett, T. Beaton, J. J. Black, W. P. Bonner, T. R. Bowen, G. F. Bradley, T. W. Byrne, W. T. Chaning-Pearce, T. Cock, W. L. Cowardin, H. J. M. Cursetjee, G. de H. Dawson, H. Dearden, J. E. Dewar, W. J. Edgar, C. D. Faulkner, H. Flecker, A. D. Gardner, A. C. Gemmell, L. S. M. Habich, A. A. Henderson, T. B. Hickley, G. R. Hind, G. James, H. C. Jamieson, A. C. Johnson, T. W. J. Johnson, R. F. Jones, G. A. E. Kelman, R. Y. Kenny, C. G. Kirkpatrick, W. B. Laird, H. V. Lamb, H. D. Lander, P. S. B. Langton, A. C. C. Lawrence, B. H. C. Lea-Wilson, L. F. G. Lewis, J. R. Liddell, S. Marle, O. de B. Marsh, E. P. Martin, K. P. Mathur, J. W. E. Mendis, J. Morley, M. W. Morrison, N. Mutch, A. P. Nicolle, H. L. Paddon, K. G. Pandalai, H. C. G. Pedler, C. A. Pereira, A. Pfeiffer, D. D. Pinnock, J. Powell, E. Prall, T. S. S. Rajan H. M. Rashbrook, W. A. Reynolds, W. Scarisbrick, *D. Scurlock, F. R. B. Skrimshire, V. E. Somerset, †Pearl J. Sproule, G. N. Stathers, B. S. Taylor, D. C. Thompson, A. H. Todd, S. Van Someren Boyd, J. E. P. Watts, F. Wells, E. T. Willans, R. J. Wooster.

*M.R.C.S. granted on January 12th, 1911.
† Under the Medical Act, 1876.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council was held on February 9th, Mr. H. T. Butlin, President, in the chair.

The late Mr. Henry Power.

The following resolution was passed by the Council.

The Council do hereby record their deep regret at the death of Mr. Henry Power, who for eleven years was a member, and devoted to the service of the College. He was highly esteemed, not only for his professional attainments but for personal qualities which won for him the respect and affection of all who knew him. The Council also desire to express their very sincere sympathy with Mrs. Power and members of her family in the loss which they have sustained.

Diplomas.

Diplomas of membership were granted to seventy-four candidates found qualified at the recent examination. Diplomas in Public Health of the two colleges were granted to twenty-one candidates found qualified by both colleges.

Vacation Dissection.

The following resolution recognizing dissections performed during the vacation months of April and September was adopted:

That, as recommended by the Court of Examiners, Clause 2, Subsection II. and Clause 5, Subsection III, Section III, of the Regulations for the Diploma of Fellow, namely: "Of having dissected at a recognized medical school or schools for a period of not less than eighteen months during the ordinary sessions or terms," be altered by the omission of the words "during the ordinary sessions or terms," and by the addition of the following note: "(Dissections during the regular vacations will be accepted, provided the certificate shows that they have been performed under the superintendence of an authorized teacher in a medical school.)"

Diploma in the Diseases and Hygiene of the Tropics.

The following regulations and syllabus in connexion with the above were adopted:

1. That a diploma in Diseases and Hygiene of the Tropics be granted by the Royal Colleges after an examination conducted under the superintendence of the Conjoint Board.
2. That one examiner in Bacteriology and one examiner in the Diseases and Hygiene of the Tropics, including Surgery, be appointed by each of the Royal Colleges.
3. That the following regulations and syllabus be adopted:

REGULATIONS FOR OBTAINING THE DIPLOMA IN THE DISEASES AND HYGIENE OF THE TROPICS.

I. The examination will be held in the months of April and October.
II. The examination will comprise (*a*) written questions, (*b*) oral questions, (*c*) practical laboratory work, (*d*) clinical work.
III. The fee for each admission to the examination is £9 9s.
IV. Candidates must give 14 days' notice in writing to the Secretary, at the Examination Hall, and produce at the same time the necessary certificates of study.
V. Candidates must produce evidence of being in possession of a registrable qualification in medicine, surgery, and midwifery, and of having attended, subsequently to obtaining such registrable qualification:

1. Practical instruction in bacteriology, parasitology, medical zoology, and haematology in a laboratory recognized for this purpose during not less than six months.
2. Instruction in hygiene applicable to tropical countries.
3. The clinical practice of a hospital recognized for the study of tropical diseases during not less than six months.

VI. Graduates in medicine or surgery of Indian, Colonial, and foreign universities recognized by the Examining Board in England, but whose degrees are not registrable in this country, may enter for the examination for the diploma in the diseases and hygiene of the tropics on fulfilling the same conditions in regard to study. In such cases it must be understood that the diploma, if obtained, will not be registrable under the Medical Acts.

The above conditions of study may be modified at the discretion of the Committee of Management in the cases of a candidate (*a*) who has been employed in foreign or colonial medical service; (*b*) who has been engaged in public professional or teaching work in tropical countries; (*c*) who has been engaged in original investigation in tropical countries.

SYLLABUS OF THE EXAMINATION.

1. The methods of investigation of organs, tissues, blood, faeces, urine, bacteria, helminths and protozoa.
The characters and life-history of bacteria, helminths, protozoa, fungi, arthropoda, and other disease carriers.
2. The etiology, pathology, distribution, symptoms, diagnosis, prevention and treatment of diseases of tropical countries, including:
(*a*) Diseases due to bacteria, protozoa, helminths and mycotic parasites.
(*b*) Diseases of uncertain etiology.
(*c*) Diseases due to foods and those due to ticks, insects, scorpions, poisonous snakes and fish.
(*d*) Ophthalmic diseases.
(*e*) Skin diseases.
(*f*) Native poisons and poisoned wounds.
3. Surgery in relation to tropical disease.
4. Hygiene of the Tropics:—Personal, domestic, municipal, port and ship hygiene. Climates. Acclimatization. Water-supply and its protection. Purification of water and simple tests for potability. Food and clothing in relation to health and disease. Removal and disposal of waste matter and excreta. Sewerage and drainage. Disposal of the dead. Soil and its drainage. Reclamation of swamps and low-lying lands. Prevention and abolition of insect-breeding places.
Hygiene in relation to dwellings, buildings, towns, villages, transport, and public gatherings.
General construction and sanitation of markets, slaughter-houses, stables, cowsheds, hospitals, asylums, and jails. Sanitation of plantations.
Disinfection. Prevention and control of disease. Vaccination and preventive inoculation.

Central Midwives Board.

Mr. C. H. Golding-Bird was reappointed to represent the College on this Board.

Bradshaw Lecturer.

Mr. R. Clement Lucas was appointed Bradshaw Lecturer for the ensuing year.

Donation.

A vote of thanks was passed to the Royal Society of Medicine for the donation of a series of pelves formerly belonging to the Obstetrical Society.

Diplomas in Public Health.

Diplomas in Public Health were conferred (in conjunction with the Royal College of Physicians) upon the following twenty-one candidates, namely:

S. C. Adam, C. J. E. Bennett, H. Boulton, Major, I.M.S., H. M. Brown, P. N. Cave, R. A. Clapham, A. Dawson, Captain, R.A.M.C., K. C. Dube, J. H. Jones, *Charlotte A. King, J. FitzGerald Martin, Captain, R.A.M.C., L. Pick, A. M. Pryce, T. E. Pryce,

N. E. H. Scott, Captain, I.M.S., S. F. St.G. Steadman, S. J. Steward, C. H. Straton, Captain, R.A.M.C., *May Thomson, S. A. Tucker, C. W. Vining.

* Under the Medical Act of 1876.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

AT the monthly business of the College, held on Friday, February 3rd, the President admitted the following registered medical practitioners as licentiates in midwifery:

John Joseph Cameron, L.R.C.P.Lond., M.R.C.S.Eng., 1908; Humphrey Bede Oxenham, M.B.Univ. Sydney, 1908.

CONJOINT BOARD IN IRELAND.

Sessional Examinations, January, 1911.

THE following is a list of successful candidates as undernoted:

FIRST PROFESSIONAL EXAMINATION.—J. A. Cunningham, L. Gilligan, M. Keogh, A. P. Reilly, A. R. Soady, H. J. Villiers, P. W. Walshe.

SECOND PROFESSIONAL EXAMINATION.—P. Ashe, J. B. Barry, J. Crowley, E. G. Foley, T. Gray, C. Hennessy, E. Harnett, G. W. Jackson, J. T. McConkey, D. McEntire, H. V. O'Donoghue, A. F. I. Paterson, P. Rowan, J. Sandys.

THIRD PROFESSIONAL EXAMINATION.—W. I. Adams, Miss M. F. Ahern, F. C. Fisher, J. P. Fitzpatrick, R. M. Gordon, J. M. Horan, W. J. P. Lillis, F. J. McCarthy, B. Malaher, J. G. O'Mahony, A. A. O'Connor, C. Petit, J. Roche-Kelly, G. A. Shiel, J. C. Sproule, R. A. Wright.

Final Professional Examination.

The following is the list of successful candidates at the examination held in February, 1911:

J. J. Barry, G. E. Beggs, W. S. Coffey, C. E. Drennan, J. P. Egan, G. J. M. Fraser, J. J. Foran, J. Gormley, P. Grace, R. H. Hodges, D. J. Hurley, F. M. Kirwan, H. M. E. H. McAdoo, J. C. McMullin, J. H. O'Neill, C. H. Oliver, H. H. K. Sparrow, T. M. Thomson, N. T. Williams, E. C. Wallace, F. W. Warren.

Diploma in Public Health.

The following is the list of successful candidates at the examination for this diploma, held on February 11th:

G. K. Aubrey, Captain C A. J. A. Balck, R.A.M.C., F. J. A. Beringer, Lieutenant-Colonel L. J. Blandford, R.A.M.C., K. McGahey, F. C. Mann, J. I. Moore.

UNIVERSITY COLLEGE, CORK.

UNIVERSITY COLLEGE, CORK—better known, perhaps, as Queen's College in the medical world—has made quite a record entry this year; 181 new students have signed the roll this session as compared with 102 last year. The number last year is believed to be the largest new entry ever known in the history of the college, and this year nearly doubles it. The total number of students in the college altogether in 1900–1 was 171, thus the new entry is, so far, 10 more than the total number of students ten years ago. The full number entered for all faculties is, so far, 376. The highest number ever known was in the session 1881–2, when there were 402 students in the college. The large number in that year was due to the fact that many entered to secure the last advantages of the Queen's University, which was then disappearing. Otherwise the highest number known was 348, which was in 1882–3, a continuation of the state of affairs in the previous year. The present numbers will, no doubt, exceed the record of 402 when the final lists are made up in July.

APOTHECARIES' HALL OF IRELAND.

THE following is a list of the successful candidates at the final examination, January, 1911:

MIDWIFERY.—J. L. Bocarrow, L. N. Denslow, H. Hutchinson, F. Muller-Fonseca, Mrs. M. Neary.

MEDICINE.—Miss M. L. Batho, J. L. Bocarrow, Miss A. M. Headwards, J. B. O'Donoghue.

SURGERY.—Miss M. L. Batho, J. L. Bocarrow, Miss G. Ghosh, Miss A. M. Headwards, H. Hutchinson, G. M. Mayberry, F. Muller-Fonseca.

COMPLETED EXAMINATION.—Miss M. L. Batho, J. L. Bocarrow, Miss G. Ghosh, Miss A. M. Headwards, G. M. Mayberry, F. Muller-Fonseca.

WE learn from the *New York Medical Journal* that the second annual statistical statement recently issued by the (American) National Association for the Study and Prevention of Tuberculosis shows that in 1910 nearly £3,000,000 were spent in the fight against tuberculosis, as against £1,600,000 in 1909. The largest item of expenditure in 1910 was for treatment in hospitals and sanatoriums, £2,275,300 having been spent in that way. Anti-tuberculosis associations spent £152,100 and dispensaries £177,800. Special municipal and State expenditures amounted in the aggregate to £350,000. Of the total amount expended, 62.6 per cent. came from public appropriations. New York State heads the list in respect of money spent with a total expenditure of £849,000. Pennsylvania comes second with a total expenditure of £420,800. Expenditures of other States are as follows: Massachusetts, £303,600; Colorado, £167,200; Ohio, £129,900; Connecticut, £101,200; New Mexico, £100,200; Illinois, £90,600; California, £80,800; New Jersey, £77,140.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ROSACEAE asks for suggestions for the treatment of a case of chronic osteo-arthritis of the wrist. Iodine, iodides, and guaiacol carbonate have all been used without success.

X. Y. Z. asks for advice in the treatment of a young woman who suffered five years ago from chlorosis, and has had amenorrhœa ever since; otherwise she enjoys good health. Ergot and aloes and the usual tonics have failed. Our correspondent asks whether *Senecio aureus* (ragwort) would be likely to be of value.

FIRST AID BY SCHOOL MEDICAL OFFICER.

S. M. O.—A whole-time school medical officer, whose engagement contract contains no clause as to treatment further than such laid down by the regulations of the department, while engaged in routine examination of the scholars is called to an accident in the playground. He finds a fracture of the arm, renders first aid and sends the child home with a note to the parents advising that the family doctor be called in at once. Is first aid sufficient, or should he have set the fracture?

*** "S. M. O." appears to have acted correctly.

PETROL DUTY.

REBATE has made a claim for repayment of one half of the tax on petrol used by him, but is refused on the ground that the petrol had not been subject to duty, having in fact been supplied from stocks imported before the imposition of the duty. He inquires whether he has any claim against the person who supplied the spirit.

*** If our correspondent paid the price that was asked for the petrol without a guarantee that the duty had been paid he has no remedy.

INCOME TAX.

WRONGLY TAXED, after giving to the Surveyor of Taxes notice of objection to an assessment as soon as he was able (though after the prescribed twenty-one days), has heard nothing further, but has received a demand note for the full duty charged from the collector of taxes.

*** Our correspondent should return the demand note to the collector, informing him that he is in communication with the surveyor. It will be as well to address a protest also to the surveyor.

ANSWERS.

FASTIDIOUS.—No notice can be taken of anonymous communications.

G. R. G.—Buenos Aires is a healthy town; the climate is good and quite suitable to young children. There is a plentiful supply of fresh milk.

DR. J. BATTERSBY (Nottingham) writes to ask if "Aden" (BRITISH MEDICAL JOURNAL, February 4th, p. 288) has tried liquor sodii ethylatis.

DIET IN DIABETES.

D.P.H.—Macaroni and vermicelli contain a considerable amount of starch; according to the tables published by Schall and Heisler, their carbohydrate content is 72.5 per cent., differing, therefore, very slightly from the best wheat flour (73.6 per cent.).

FLAT FOOT.

PES writes, in reply to "A. D. P. D.": For a few pence a cobbler will fasten to the sole of the shoe a leathern pad, bevelled in accordance with the surgeon's instructions.

AN UNUSUAL AURAL REFLEX.

DR. A. W. STIRLING (Atlanta, Georgia) writes: It would be a pity that your readers should be left with the idea that a cough is an almost unknown symptom of irritation of the aural canal. I have seen it in a number of cases follow upon the introduction of a speculum, and I think it is a well-recognized phenomenon.

INDUCTION OF ABORTION FOR HYPEREMESIS GRAVIDARUM.

SIX MONTHS.—Abortion is no prophylactic against the recurrence of hyperemesis unless it is accompanied by attention to any individual factors, gastric, uterine or other, in the case. The literature will be found in a paper by Merle, De l'avortement forcé dans les vomissements incoercibles graves, *l'Obstétrique*, 1900, v, 230–252.

DIABETIC GANGRENE.

W. H.—The pain of which the patient complains is doubtless due to neuritis, and, having regard to the patient's age and condition, will probably best be treated by hypodermic injections of morphine. The question of the desirability of the amputation of the gangrenous toe should be considered, as it is not a serious operation and may give relief. In these cases the diet should not be absolutely strict, but the patient should be upon a definite limited amount of starchy food, such as, for example, one roll of Brusson Jeune bread daily,

one large baked potato, and a pint of milk; this with a mixed diet of fish, chicken, and meat, not in large quantities, any green vegetables, including such bleached vegetables as celery and seakale, and allowing stewed rhubarb, baked or stewed apples and dried apricots stewed, saccharine being used for sweetening, would be, speaking generally, a better diet than one from which all sugar-forming foods are excluded. The diet, as described, would contain about 1,200 grams of carbohydrates.

GENERAL PSORIASIS.

O. C. (Liverpool) writes: I note that "Senex" makes no mention of any treatment of the scalp having been carried out. In most cases of psoriasis seborrhoea of the scalp will be found, responding readily to washing with spirit soap and the application of a salicylic lotion, etc. A drug I have often used successfully is sodium iodide in big doses—3ss to 3j t.d.s. Warm alkaline compresses with gutta-percha tissue over them are often used to remove scales from localized patches before any drugs are applied locally. I have had most success with oil of cade 1 in 5, gradually increasing the strength till the pure drug is used. The chrysarobin stick or pencil is often useful. Remove the scales, rub the part with the pencil, and then cover with plaster every second day at first, then daily. Some cases do well with *x*-ray treatment, but it is very erratic, sometimes making the cases worse. I regret that I have had no experience of bromaurum, but I should be interested to hear if it succeeds.

W. B. writes: I think my experience may be helpful. A patient was sent to me for CO_2 snow treatment. There were patches on each wrist about the size of a sixpence, that he wanted particularly removed, as they were so unsightly. One application for thirty seconds of CO_2 effected a perfect cure in three weeks, leaving a faint blush on the new skin; but, to the surprise and delight of the patient, in about another fortnight his whole body, which was really covered with psoriasis when I first saw him, was quite free from any trace of the disease. The patient's explanation was that I frightened it away; and that may be true, in this way: He was greatly run down, depressed, and disappointed at the failure in the prolonged and drastic treatment of several specialists; everything had been tried outside and inside, including thyroid extract (which nearly killed him), and a prolonged change at Bournemouth. He complained very much of pain, both in the freezing and thawing stages of the CO_2 treatment, which is very unusual, and he anxiously inquired if I intended applying this all over his body, as he would not be able to stand it. I said I might do it piecemeal later. This evidently so frightened him that the psoriasis of over twelve months' duration completely disappeared in these few weeks. This I consider a splendid example of the influence of the mind over the body, and I think over such an intractable case as "Senex" describes. Suggestive treatment, with or without CO_2 snow, for the lupus erythematosus on the face would be attended with the happiest results.

DENTAL EROSION.

DR. J. BATTERSBY (Nottingham) writes: In reply to "A.M., M.B.," the cause is due to pyorrhoea alveolaris which causes the gum to recede and expose the enamel cement junction on the surface of the tooth. Often the surface becomes extremely sensitive although there is no apparent or extensive decay. A practically certain cure is to rub the sensitive area with silver nitrate. The best way of applying is to fuse the caustic on the end of a pointed metal rod. One or two applications will effect a cure. The effect will not be very marked for a little time after. An albuminate of silver is formed on the surface of the tooth.

DR. CYRIL HOWKINS (Yardley) writes: The cause of the sensitive outer surfaces of molar teeth is due either to the destruction of enamel from some cause or other, or to the gum having receded, leaving the cementum exposed. There are several ways of dealing with this condition: (1) Drilling into the sensitive part under either general anaesthesia or local anaesthesia produced by the injection of a local anaesthetic into the bone near the apices of the roots; (2) devitalizing the tooth in the ordinary manner and then filling in the usual way; (3) fixing a gold collar round the tooth or covering the tooth with a gold crown. Possibly, however, relief might be obtained by the application of silver nitrate to the sensitive part. A crystal of silver nitrate is melted on to the head of a pin and rubbed on the sensitive surface, the tooth being kept dry meanwhile and after the application for two or three minutes. This can be repeated at intervals. Several other drugs have been suggested, and which have been applied, but the only satisfactory one, as far as my experience goes, is the one mentioned.

LETTERS, NOTES, ETC.

COMMISSIONS.

THE contrast between the spirit which actuates a trade and that by which a profession is animated is well illustrated by the indignation excited in the minds of medical men by the offers occasionally made to them by traders of a commission for recommending their wares. The latest incident brought to our notice is one in which a maker of corsets offers to remit on all first orders of clients recommended by the recipient 25 per cent., which, it is discreetly added, could be devoted to any charity at the discretion of the recipient.

CORNS.

DR. AUGUSTINE HOULGRAVE (Harrogate), in the course of a note on the prevention and treatment of corns, writes: The structure of a corn consists of two parts: the outer external part is made up of compressed layers of cuticle which are convex inwards, forming a kind of knot, and underneath is a small bursa. The soft corn is of the same structure as the hard, although some pathologists tell us that they sometimes have a warty structure. The one great cause of corns is pressure—shoes that do not fit, too narrow, too short, too large, heels too high, toes too pointed; also constitutional causes which influence the trophic nerves, gout, tabes, syphilis, arsenic. As regards treatment, the boot should fit the foot and have a good stout sole, the upper which covers the toes and part of the metatarsals should be all one piece, without toe-cap, and made of kid, buckskin, or a kind of cloth which resembles leather. The socks or stockings should not be neglected, for they too often have pointed toes and shrink, and help to keep distorted toes in a faulty position. By way of destroying a corn strong nitric or acetic acid, or salicylic acid plaster, or salicylic acid and Indian hemp paint may be applied or the corn may be cut out. By way of removing the pressure white felt or amadou spread with isinglass (Court plaster), instead of plaster having a lead basis, especially if it has to be used for any length of time; a hole large enough to fit the corn is punched out and the plaster cut to a suitable size dependent upon the situation; it is sometimes advisable to have the plaster cut after the pattern of a horseshoe, with the open part towards the body. For toes that are out of shape a piece of stout leather or metal with slits in it, a piece of tape passed over the toes through the slits and fastened underneath, or a strip of plaster placed over the toe and under the others and fastened over the metatarsus. If these measures do not bring about the desired result and hinder the patient from getting about his work, or if the health suffers from want of sufficient exercise out of doors, then the toe may be removed, or the joint under the corn may be excised. Should the bursa under the corn become inflamed it should be lanced. In elderly people, and those who have weak constitutions, soaking the foot in a warm alkaline bath and then using a piece of pumice stone is safer than cutting them with a razor or knife or some pet instrument. In all cases the utmost cleanliness should be observed.

*** In this connexion we may recall a note published in the JOURNAL in 1903, vol. i, p. 228, by Mr. Harding Freeland, advising free and complete excision of the corn as the most satisfactory method of treatment, and further, that the foot should be carefully examined in order to ascertain that there was no deformity such as slight degrees of pes cavus, hallux valgus, or Morton's disease, since it is hopeless to expect to cure a corn while deformity was allowed to persist.

THE ADMINISTRATION OF OXYGEN.

DR. D. W. SAMWAYS (Mentone) writes: A patient of mine from Southampton much surprised me lately by purchasing a bag to take away with him, for the administration of oxygen gas. Such a thing, he says, is unknown in Southampton. A few years ago I ineffectually sought for one in Bournemouth. It seems monstrous that in these towns, and presumably elsewhere in England, oxygen gas is administered to patients direct from the metal cylinder. Such a cylinder is a very unfit object to bring to, and especially to open, at any bedside; while to supply ice-cold gas (and the gas expanding from a compression cylinder becomes icy cold) is, in my opinion, little short of criminal. It is, moreover, bad policy; for a cold draught on the face is resented even by unconscious patients, and should alone have suggested warming the gas. Out here gas bags are filled from the cylinder in another room when possible, and if the cylinder be carelessly opened no one but the culprit is alarmed. The bags are then left for an hour or two before use, so that the oxygen may acquire the temperature of the room. As an additional safeguard, and for better control, I employ a box full of hot water, through which passes a metal tube making six or more spiral turns, and through this hot tube the oxygen finally passes to the patient from a bag suitably compressed. The gas then arrives at a temperature warm enough not to worry an invalid, while the respiratory passages are not unduly chilled.

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